ASL

Australian Society
for Limnology Inc

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AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

The Australian Society for Limnology Inc. (ASL) is an association of over 500 people with professional or amateur interests related to Australian inland waters. Since its inception in 1961, the society has played an important role in fostering limnology in this country. The ASL promotes liaison between limnologists in academic, government and private institutions and has a vested interest in the conservation of aquatic and related resources. Annual conferences are held near centres of limnological interest, and the programme includes scientific sessions, field excursions and social activities.

The ASL regularly produces a newsletter with notes on limnological activities, articles of interest, book reviews and announcements of upcoming events likely to be of interest to Members.

EXECUTIVE OFFICERS 1996-97

President
Dr Max Finlayson, ERISS, Locked Bag 2, Jabiru, NT 0886
Ph: 08-89799756 Fax: 08-89792149
Email: maxf@eriss.erin.gov.au

Vice-President
Dr Pierre Horwitz, Dept. of Science, Edith Cowan University, Joondalup, WA 6027.
Ph: 09-4005558, Fax 09-4005717
Email: p.horwitz@cowan.edu.au;

Immediate Past President
Dr Paul Boon, Department of Environmental Management, Victoria University of Technology (St Albans), PO Box 14428, MMC, Melbourne Vic 3000.
Ph: 03-9365 2214. Fax: 03-9365 2465.
Email: paul.boon@vut.edu.au

Secretary
Dr Richard Marchant, Museum of Victoria, 71 Victoria Cresent, Abbotsford, VIC 3067.
Ph: 03-9284 0218. Fax 03-9416 0475.
Email: rmarch@pioneer.mov.vic.gov.au.

Treasurer/Membership Officer
Mrs Margaret Hart, 22 Netherby Avenue, Mulgrave, VIC 3170.
Ph: 03-9560 4406. Fax: 03-9560 4406. ph. 03-9545 3549
Email: m.hart@sci.monash.edu.au (from March 1997)

Membership Infomation and a list of the Regional Executive Officers can be found at the back of this Newsletter

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Material for publication in the June 1997 Issue of the Newsletter should be sent to the Editor (see back pages) before 30 th June 1997.

Long articles should be forwarded as unformatted text on a disk or via email.

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EDITORIAL

The 'editorial' for this issue of the Newsletter has been cancelled as I attempt to juggle compiling and editing the newsletter while attending the needs of a now one month old baby boy. Jonty arrived on the 1st of April, just in time for the March newsletter deadline!!!!. Any deficiencies in this issue can now be blamed on hormones and an incredible lack of sleep.

This issue contains information for the 1997 ASL Congress to be held in Albury.

PS. any member out there who would like to take over the editing of the Newsletter - feel free to contact me.

DEADLINES FOR THE NEWSLETTER IN 1997

The following are the deadlines for issues of the ASL Newsletter Volume 35.

Volume	Deadline
Volume 35	
June 1997, *No. 2*	30th June 1997
September 1997, *No. 3*	30th September 1997
December 1997, *No. 4*	31st December 1997

--ASL Home Page Address--
http://www.ntu.edu.au/science/mdouglas/asl_home.html

FROM THE PRESIDENT

The Future of ASL

This issue generated some interesting debate at the last ASL Congress (in Berri) after Paul Boon introduced a wide range of ideas. My impression of the debate and subsequent comments (submitted to me to collate and distribute in the very near future) was that there was a strong desire to retain the intangible, but valued existing features of ASL. I also thought that there was a feeling that change would lead to a loss of these values that existed primarily because we held an informal conference every year and some brave person(s) regularly produced a newsletter (despite the perennial problem of soliciting articles from members, with the possible exception of Scuttlebuggers). In otherwords, for very little input (by the masses) we had a nice and valued (in an intangible sense)society and hoped not to lose this, nor to increase the demands on members or those who (foolishly?) chose to be coopted to the Executive.

We will revisit this issue in Albury and I hope to hear some further interesting responses to the comments submitted in writing, by the brave-hearted few, since the Berri experience.

Wetland Conservation

It is also apparent that a few members are very keen to use ASL as a platform to promote conservation issues. And I wholeheartedly support this, but is it actually a useful exercise? Will it actually be successful? Will it expose deadly schisms between members? Will it lead us away from our scientific pursuits and even further down the "dark" path of conservation? (I certainly hope so, but that is just one opinion.) How do we obtain consensus? What will happen when proponents of massive "limnologically-threatening" development schemes take to using the newsletter to promote these schemes (which as members they would have some rights to do so)?

We have passed a few resolutions and allowed individuals to make pronouncements in our Newsletter over the past few years. But what does it mean? We feel good about it and then we go home; that is nice, but possibly not very useful. I'd like to suggest that unless we develop a more effective follow-up that we desist from any resolution or campaigning style pronouncements etc. I would like to see us adopt a proactive role in the aquatic conservation debate. Unless we do this we will continue to delude ourselves and waste everyones time (for doing something more useful?). The exception (there is always one or even more) is where the information is used as an awareness/education exercise. Is the latter what we have really been aiming for?

Limnological Funding

The recent frenzy over applications for the national wetlands program (variously advertised under LWRRDC and ANCA which is now part of the Biodiversity Group of Environment Australia) has also had its interesting sidelines. Perhaps its just because I'm new to the fund-grabbing frenzy but I could see many conflicts of interest and heard of some absolute bastardary. How many people who were submitting applications were also asked to collaborate on other people's projects or to even referee them? In all honesty this need not be a problem - I felt my integrity was sufficiently sound to participate at all three levels (please resist the obvious rejoinder), but should we be asking "ourselves" to play all such roles? What are the alternatives? ASL as a group has little acceptance within this funding scheme. (Our request to be part of the process for developing the federal wetland policy was put on hold.) Perhaps we could at least influence the priority topics for funding - is it worth looking at an ASL Top Ten and feeding this into the various channels that currently make these decisions?

ASL Publications

This issue has been discussed before and probably even before that. But, should we be publishing the key note papers (especially when we support the speakers to attend) and Jolly Award speeches from each Congress? Not all members can attend the Congresses and thereby miss the opportunity to hear our honoured members or guest speakers. If we decide to do this I'd suggest that the Executive set a process in place with each Congress Committee to make sure it happens. Then there is another one for consideration - should we be on the lookout for means to fund a further annual or biannual talk in honour of a particularly worthy Australian limnologist? A talk by a particularly knowledgable, erudite, controversial or respected limnologist or even non-limnologist could be used to raise the profile of issues of the day and even serve some of the purposes sought by those who would like to see ASL as more than a club for annual story telling.

Max Finlayson
ASL President 1996/97

PRATTLEBUT, SCUMOUR AND RUTTLE

NEW SOUTH WALES

Department of Land and Water Conservation

Been a long time since last news from DLWC or its former entities (Department of Water Recources, Department of Conservation and Land Management plus bits of Public Works), and the dust of amalgamation is showing signs of clearing. This spruke is as a result of **Greg Raisin** (CSIRO/Murray Darling Freshwater Research Centre) joining us in the Riverine Environment Section and gamely (or perhaps blindly) leaping into the Managers seat at Orange (just wait till winter!). As soon as he gets in the door its just orders, orders, orders - Write a bit for ASL Newsletter two hours ago..., etc., which is why this is short on relevant news.

Greg has staff scattered through Orange, Dubbo and Forbes who work on various projects and core activities in the Macquarie, Bogan, Castlereigh and Lachlan Rivers. Some of the major work areas include **Paul Keyte, Warren Martin** and **Tony Witts** and their famous Macquarie Marshes; **Debbie Love** is investigating the impactysof water transfers between Windamere and Burrendong Dams without killing platypus or angering locals; **Clare Moore** is about to be engulfed by a Performance Reach project which has something to do with RFOs and WQOs; **Patrick Pahlow** does heaps of sampling and is working on a biota study; **Cliff Massey** has recently finished collecting data for the Riverine Corridor Assessment of the Lachlan River before he embarks on a part time career as a centre fold; **Rik Whitehead** is compiling a huge State of the Rivers Report for the Lachlan; **Vicki Martin** has been working on fish (floundering), drowning ion blue-green algae, keeping monitoring programs together, organising a community project in Windamere Dam Catchment, Scum Schools (teaching people to be SCUM), and multi-skilling. **Vicki** is the only one of Gregs staff in Orange so gets all the good jobs (like this).

Other very short news (given the timeframe) include the addition of **Bruce Chessman** (AWT) to head the Biomonitoring Section in Parramatta, Dr. **Helen Keenan** (Macqarie Uni. And AWT) to the Leeton Office of the Murrumbidgee Region and the imminent River Flow Objectives and Water Quality Objectives being driven by the Environment Protection Authority. All the water will have significant impacts on DLWC but thats another story... **Greg** will more than likely insist that this becomes a regular column from DLWC with info. And goss from all over the State - so stay tuned.

Aquatic Ecosystems Section
Water Quality Services Unit, Department of Land & Water Conservation

from: Doug Wesothorpe

For a short period last year the section seemed to be floundering with low volumes of work and unsure sources of funding. Thats all a thing of the past, we've now got more new projects to add to the existing projects than we can snap a yabbys claw at.

The arrival of **Bruce Chessman** (formerly of AWT) as our new fearless leader has helped bring the AES ship onto an even keel once again. Emphasis is being placed on all staff to become more familiar with more than one Order in the world of macroinvertebrates.

A joint 2 day field training course was undertaken by four staff (**Bruce Chessman, Michael Moroney, Adam Boey & Doug Westhorpe**) along with persons from the NSW EPA and Forestry Commission in mid March in preparation for the First National Assessment of River Health. Approximately 140 sites will be sampled in western and north-western NSW in April / May this year following the AusRivAs sampling protocol.

One of the new projects is the Snowy River Benchmarking Survey which involves quantitative sampling of macroinvertebrates prior to and after possible environmental flow releases into this once mighty river. **Bruce** and **John Graice** had the pleasure of participating on the first field trip in late March. A total of eleven sites are being studied, all are downstream of Jindabyne Dam.

Two projects involving the impacts of pesticide on aquatic fauna are being carried out by **Andrew Brooks** (now with DLWC Sydney South Coast) and **John** . Andrew has completed the field side of his project; whilst John is carrying out field work in the Moree region with the assistance of **Susan Powell** from the Moree Office. Michael has been examining the effects that artificial shade cloth covers may have on controlling the growth of algae in four STP ponds at Stroud.

Renaye Cole will only be with us for about four more weeks, as she is expecting a baby sometime in June.

The above is just a glimpse of the exciting things happening in the glass towered building at Parramatta.

AWT Ensight

from: Simon Williams

The stream studies section would like to announce the arrival of its first aqua-baby earlier this year. **Cathy Cunningham** gave birth to a healthy baby girl-Jessica-May. Amazingly Cathy was still able to process 1,000's of quantitative IFIM samples at the same time.

Paul McEvoy recently left AWT to take up a new position with the South Australian Water Authority, working on the monitoring river health program. Paul will be sadly missed by everyone.

Colin Besely, Lynda Blunden, David Holleley, Maria Marzella, Lisa Silva, and **Simon Williams** are continuing the macroinveretbrate program for the greater Sydney region. The program is designed to assess the impacts of sewer overflows and sewage effluent inputs. **Bruce Chessman** is also working with **Simon Williams** to produce genus level SIGNAL grades for the aquatic macroinvertrbrates of the greater Sydney region.

Ivor Growns while based at La Trobe University is working on the IFIM and the environmental flow program for the Hawlkesbury-Nepean River with Simon and Amanda Kotlash. Ivor is also developing the diatom models for the monitoring river health program.

Brendan McKie is still frantically trying to process all the IFIM samples, before he leaves AWT to start his PHD at Townsville. Brendan has also been involved with some of field work and was recently impressed with the ease of field work (NOT!!), it only took 2 hours to walk one kilometre into one of the gorges of the upper Nepean river system.

Peter Swanson, Meran Griffith and **Cathy Hooper** are busily conducting the water quality monitoring program of the Sydney Water Corporations catchment areas.

Greg White was last seen muttering something about artificial wetlands as he left for the airport to fly to Melbourne.

Finally, a new senior aquatic biologist position (>$50, 000 pa.) has been advertised. It will be expected that the position will be filled within the next few months.

University of New England

Ecosystem Management

from: Michelle Casanova

Heavy summer rains have caused substantial floods throughout northern NSW. PhD students **Sandra Grinter** and **Sue Botting** have struggled with high waters because the samples must come through. Sue's project includes a broad survey of the downstream influences of a range of land-uses in the Macleay River catchment and is partly funded by National Parks. The second aspect of it is modelling nutrient dynamics from different land-uses, testing the effectiveness of models like CMSS. She is keen to hear from other people doing similar projects.

Andrew Boulton is back on his feet and enjoyed meeting up with folk at the taxonomic workshop that **John Hawking** ran in February. He is pretty busy teaching (making up for lost time last year). This year, he has several Hons students starting projects: **Chris Thomson** is working with the Kalang River LandCare group, producing a manual for biomonitoring using invertebrates at a range of sites on the river; **Marita Woods** is investigating gradients in nutrient concentrations and invertebrates along several streams draining catchments with different land-uses, **Phil Byrne** continues a study of the downstream effects of an arsenic mine, **Tracey Fulford** is using remote sensing flown from an ultra-light to monitor blue-green algal blooms in several dams near Armidale, **Rachel-Ann Robertson** is completing a comparison of the breakdown of *Casuarina* and pine needles in streams draining pine and native forests, and **Robert Rose** is surveying a range of wetlands near Armidale for the local council, providing recommendations for their State of the Environment reporting.

Kim Jenkins' magic invertebrates from mud show continues apace, and she is expanding her study to investigate further the effects of water regime on the composition of emerging invertebrates. **Colleen Watts** is focusing her work at Carcoar to concentrate on the interactions between S and P in sedimentary release of P.

Botany.

Like everyone else we have had a fairly hot summer, but wet as well. The local lagoons have risen in the month of February and the continual rain has slowed progress on experiments in the Newholme wetlands (read replicated manipulable wetlands). Every time it dries a little, it starts to rain again. However, the valiant efforts of **Chris Cooper** will ensure that it all comes together soon. The wetlands will be used as field based experimental units in which water-levels can be raised or lowered on demand (or command!) and we're all looking forward to the day when we can get them started.

Michelle Casanova attended the Australian Society for Phycology and Aquatic Botany conference in Hobart and caught up with various freshwater algal and aquatic plant people. She presented a paper on the recent rediscovery of *Lychnothamnus barbatus* (a charophyte of course). Look forward to hearing more about this 'beast' in the future. **Geoff Smith** is working at writing his PhD thesis, **Annabel Douglas-Hill** has finalised her first summer of Masters experimentation and we have a new Honours student, **Rob Sansom**, working on the effect of gradient (or slope) on the establishment of wetland plant communities.

Margaret Brock has not been seen locally since early February as she is on study leave looking at wetlands and issues in the Murray-Darling Basin, and other places too. If you see her say hi for us! She will return to Armidale for a short stay in March/April then will go off checking out wetlands and wetland workers in USA and Europe.

AUSTRALIAN CAPITAL TERRITORY

Ecowise Environmental

from: Frederick Bouckaert (Frederick.Bouckaert@actew.com.au)

Ecowise Environmental has been endowed with a fresh biology team for its laboratory operations, consisting of **Frederick Bouckaert** and **Simon Josey**. They raided the place after **Fiona Harvey** left for the UK to pursue some Northern Hemisphere macroinverts acitivities, and **David Hillhorst** also went mysterious ways in search for something else. Both of them have been very busy over summer with phytoplankton counts, preventing them from making much headway in the Murrumbidgee amd Molonglo macroinvertebrate monitoring program, carried out for the LMWQCC. They have also been visited by three people from a scietific laboratory in Mauritius, who are here for an intensive operations training program. Stage two of this program will entail some of us reciprocating the visit, to help them streamline their lab over there. **Frederick** will also trail in the footsteps of his chemistry and microbiology colleagues to help train two staff to commence with an aquatic biology section. With only one week to spare, (and many beautiful beaches) this will be a hard act to follow; hence his recent email request for some suitable reference works on the island region. Thanks to all of you who responded for the interesting leads on this.

THE COOPERATIVE RESEARCH CENTRE FOR FRESHWATER ECOLOGY

University of Canberra

It's been a busy three months at the CRC for Freshwater Ecology with launches, reviews and new research portfolios to put together. But we're surviving.

The CRC for Freshwater Ecology has completed its Third Year Review and has past with flying colours. **Graeme Kelleher** and included **Neil Body** and **Peter Millington** chaired the review panel.

The AUSRIVAS predictive model, which **Richard Norris** and his team here have been slaving away on for months, is almost ready to hit the web and the general public. The AUSRIVAS program was launched in February by **Senator Robert Hill,** Minister for the Environment. **Kerry Beggs** and **Chris Williams** hauled on the waders and gave the Senator a first-hand demonstration of sampling. Unfortunately the Molonglo River is too degraded to bring up much in the way of bugs but it provided a good photo opportunity for the swarm of paparazzi there.

Chuck Hawkins, from Utah State University, paid us a visit mainly to check out the aforementioned predictive model with a view to setting up a similar model using a data set of 700 logging sites in Northern California. Unfortunately his visit was cut short due to illness in the family.

Peter Cullen, our esteemed Director, received a Don's Dozen award from the University of Canberra. The awards are presented for outstanding service to the University above and beyond the call of duty. Peter's award recognised his contribution to increasing the profile of the University.

Arthur Georges, CRCFE and UC herpetologist, thought all his Christmases had come at once when he was shown a photograph of a long-necked turtle in an area which was several hundred kilometres away from the nearest known habitat of these turtles. Arthur rang the publishers of the photographs to ensure the photograph was in fact taken in the area accredited and was assured it was the real thing. A trip to South Australia was hastily arranged but Arthur's keen nose smelt a rotten apple. Further investigation by Arthur found that the photo had in fact been taken with a wide-screen lens and the turtle was in fact just an ordinary short-necked turtle. Arthur soon got over his disappointment during the trip to Rockhampton where he found four endangered turtles.

One spot of excitement in our otherwise mundane lives was the discovery by **Narelle Freestone** of freshwater jellyfish in nearby Lake Ginninderra. It was thought at first that these jellyfish had not been spotted since the 1950's though ACTEW had to steal

our thunder with news that in fact sightings had been made in recent years. None-theless they provided hours of entertainment with their antics in the tanks.

Simon Hogan and **Paul Blackman** have been performing wonders with our home-page. For those who haven't checked it out yet – do so. It's full of amazing information, graphics and even pictures of staff. Education pages are soon to be added aimed at primary and high school children.

CRCFE PhD students **Louisa Oswald** and **Patrick Driver** showed they are not just pretty faces when they organised this year's post-graduate workshop at Long Beach. Despite the beautiful beach setting, volleyball courts, flying foxes etc they swore a lot was accomplished. Twenty-one students from all over Australia attended and generally agreed that the workshop was a great success.

Peter Cullen will speak at the National Press Club on April 16 on "Communicating for cash – new sources of science funding". Sharing the stage is Nobel prize winner, **Peter Doherty**.

Marcus Stowar, has returned from wrestling crocodiles in Kakadu, and is now completing the duller tasks associated with his Honours project. Marcus spent seven months in Kakadu researching the effects of suspended solids, caused by a nearby road crossing, in the river.

PhD students **Melissa Parsons** and **Louisa Oswald** are in the process of sampling at their various sites and both are happy with the way their projects are shaping up. **Patrick Driver** is continuing his work on carp and is discovering that much of his initial data seems to go against established trends. Recent arrival at the CRC, **Cathy Francis**, who is soon to head off to the Lower Basin Laboratory in Mildura, has been spending some time at the CRCFE refining her PhD research project on wetlands.

More than 40,000 school students from around Australia will be invited to explore the mysterious world of the billabong in a display conducted by the CRCFE and the University of Canberra at this year's Wonderful World of Science Exhibition which takes place from April 16-20 in Canberra. Preparations are underway preparing this Taj Mahal of billabong complete with fish, turtles, vegetation and much more.

Murray-Darling Freshwater Research Centre - Lower Basin Laboratory
Mildura, Victoria

Greetings from the sultana capital of Australia, the home of 'Orange World' and the Big Humpty Dumpty. Yes, Mighty Mildura, where the streets are often quite safe, and the river runs free, except for a couple of weirs.

The Mildura Lower Basin Laboratory team (duet?, trio?) figure it is about time this place was put on the ASL map. We don't like to think about ourselves as the little brother of the Albury Lab, more the pre-adolescent prodigal son (just wait until we hit puberty). So here is the blurb about staff, stuff and stuffed staff:

As just about everybody knows by now, the Lower Basin Laboratory is ruled under the positively iron fist of **Ben Gawne**, who is in Melbourne baiting money traps as I type. Ben has done his tour of duty in Nebraska and has returned home to the slow and meandering life that only the Murray can provide. Money chasing and project co-ordinating has kept his feet from touching the ground in the last few months, and will probably continue to do so for the next few. The second member of staff is me, Shaun Meredith, recruited from the CSIRO in Griffith. There is little doubt that I was selected for the job wholly and solely due to the fact that I am a hockey player and Ben's team didn't do too well last year. Go the Waratahs.

The last few months here have been spent turning a bus station into a fully functional laboratory. We are just about there; the smell is almost completely gone and we are only awaiting a few items whilst getting ready to haggle with the money holders for a few minor items. Thanks to **Rosie** 'foxy lady' **Busuttil** for her help and patience with the whole ugly process.

We are trying to get several projects off the ground here, focusing on the large rivers and the large number of wetlands in this neck of the woods. **Brendan** 'fishhead' **Ebner** has joined the crew, also from the CSIRO in Griffith, to begin his PhD on fish and the things they eat in the Murray. He is being supervised by Both Ben and **Phil Suter**, and is currently luxuriating in Bateman's Bay on the post-grad holiday/conference.

There are more confirmed people on the way, at least one PhD student and an honours student, but more about these as they appear.

Other activities in the lab since Christmas focus mainly on pushing the community ties; judging biggest yabby competitions at the local club (if you thought cars were a phallic symbol, give a bunch of grown men a yabby each and watch them compare), helping out with Streamwatch's 'Bug Day', organising Murray Mystery Tours with the South Australian DENR, and torturing scientific hardware salespeople (certainly a very community minded thing to do).

We'll keep you posted on the projects happening here as they unfold.

Oh, and if anyone needs an Eckman Grab sampler made up at about half the price of the American model, let me know.

The Murray-Darling Freshwater Research Centre

The Ninth Taxonomic Workshop was held from the 18-20 February 1997 and turned out a great success with jut over 100 participants . **John Dean, David Cartwright,** Alice Wells and **Ros St Clair** spoke on the Trichoptera. The Baetids (Ephemeroptera) were covered by **Phil Suter,** while Plecoptera and Chironomids were covered by **Cathy Yule** and **Peter Cranston,** respectively. Albury turned on a spell of the hottest weather in years which proved very conducive to an evening BBQ in the Centres' courtyard - a good opportunity to catch up with people, sip a few ales and discuss the latest revelations in taxonomy (!!). This also proved an ideal opportunity for Brett Ingram, **John Hawking** and **Russell Shiel** to launch (finally!) their much awaited book Aquatic Life in Freshwater Ponds while people were treated to smoked trout (wonder where Brett got those??!). Keys presented at the workshop are now available in both spiral and hardbound copies. All orders and enquiries should be directed to Rosie Busuttill or Diane Crowther at the MDFRC, P.0. Box 921, Albury, NSW, 2640 ph: (060) 582 300 fax: (060) 431 626.

Russ Shiel reports that **Professor J. Gilbert**, of Dartmouth College New Hampshire, will spend part of his sabbatical leave at MDFRC in April/May. He is currently at Otago University working on rotifer-microcrustacean interactions with Dr **Carolyn Burns**.

Terry Hillman's crew of intrepid billabong men (**Cookie**, **Chris** and **Garth**) have done the initial survey of several 'bong connections on the Murrumbidgee floodplain near Wagga Wagga with **Mike Healy** of CSU. The much awaited river/floodplain/billabong interaction project should be up and running as soon as all landholders are happy about us paddling about in to their water supplies. The aforementioned **Rob Cook** has left the team and is currently wandering about the West on hols before returning to MDFRC to do a couple of months work with **Paul Humphries** on the Campaspe River.

Vlad Matveev has also left MDFRC and headed north to Brisbane with CSIRO Land and Water to continue his work on large reservoirs and the biota therein.

Three summer schloarship students completed projects at MDFRC over Dec/Jan. **Rick Stoffels** worked with **Daryl Nielsen** on notonectid and fish predation on micro-crustaceans, **Alastair McKenzie-McHarg** worked with **Terry Hillman** and **Gerry Closs** on gambusia/gudgeon interactions in billabongs, and **Ricci Churchill** worked

with **Paul Humphries** on food availability and diet of larval fish. All three students presented seminars at the centre during February.

Charles Sturt University, Wagga Wagga.

from: Michael Healey

A new year has begun with a flurry of activity at CSU. We have five new honours students exploring a range of floodplain topics. **Errol Nye** is examining rapid assessment of biodiversity of wetlands along the midlands of the mid-catchment of the Murrumbidgee River. **Rohan Rowling** is assessing the factors affecting the riparian zone of rivers, with emphasis on the impact of cattle grazing. **Reuben Robinson** is determining decomposition rates of wood in red gum forests subject to different flood regimes while **Andrea Schodde** is delving into the acute toxicity of benzofenap to *Isidorella newcombi* and Chironomus tepperi and **Taara Lade** is evaluating the use of air-borne video for mapping moisture stress in river red gum forests. Prof. **Alistar Robertson** and his ARC team (the three tannins), **Michael Healey** and **Nigel Anthony** have been busy collecting data in the red gum forests south of Deniliquin and Nigel has been very busy in the lab analysing nutrient and DOC samples. Alistar is also beginning a cooperative LWRRDC/NRMS funded project with MDBC and NSW Fisheries staff examining billabong/river interactions along the Murrumbidgee River. **Adrienne Burns**, who is finishing her PhD at the University of Adelaide will join this project as a Postdoctoral Fellow in late April. Alistar was also successful with an ARC Collaborative Grant with the NSW Department of Land and Water Conservation to research best practice management of cattle grazing in the riparian zone. We are in the process of hiring a Postdoctoral Fellow to work on this project. **Michael Healey** with his honours project has been exploring some of his effect of fish on tadpoles data with some interesting developments concerning *Gambusia*.

VICTORIA

Department of Ecology and Evolutionary Biology
Monash University, Clayton.

From: Rhonda Butcher

Greetings from Monash, yep we are still here although since the last dispatch there have been a number of changes. In the Limno lab under the beneficent guidance of **Sam Lake** and **Gerry Quinn**, there have been more departures than arrivals and some considerable turnover of familiar faces. Departing, well actually departed, is **Michael Sinclair** to the Victorian EPA after handing in his thesis on intertidal crab population dynamics. Sort of gone is **Jaqui Jordan**; she has handed in her thesis on yabbies in billabongs on the Ovens river, but she now has a postdoc within the department in a research program with **Gerry Quinn** and **Terry Hillman** looking at identifying indicators of hydrological change on wetlands.

Shane Brooks is still here; sometimes doing his PhD sometimes doing his world tour of nice rivers under the guise of his R&D program on impacts of hydrological regimes on benthic macroinvertebrates. **Danielle Warfe** was working with **Shane Brooks** for 8 months and has subsequently left to do her PhD in Tasmania with **Leon Barmuta**; Good luck Dan! Her replacement is **Jeremy Hindell** who leans more to the marine side of things, but also has economically induced freshwater interests. Also working with Shane is **Paul Reich** who is in for the long haul, having already completed 18 months on the program. New arrivals include **Rhonda Butcher** and **Keith Ferdinands. Rhonda** has been with the group for about 12 months and is doing her PhD on biodiversity in temporary and permanent wetlands in the western Wimmera region. **Keith** is working with **Alena, Sam**, and **Barbara Downes** (Melbourne Uni) on the CRCFE program investigating "bricks and baffles" (Quote un quote by Alena). For those who don't instantly understand this cryptic comment, the program is on flow variability, habitat patchiness and diversity of stream communities. **Keith** has been here for about 12 months as well and is actually leaving soon, which does not have anything to do with his recent change of matrimonial status. **Paulo Lay** and **Patrick Maiden** are picking bugs in the lab, with Patrick having recently completed a CRCFE summer scholarship in the lab.

Maria Vazquez is in the final write up stages of her PhD on predation in stream invertebrate communities. **Jim Thomson** and **Sabine Schreiber** are in the last stages of experimental work on their PhDs. Jims is investigating the effects of flow variablility on predation in invertebrates in one of the nicest rivers in Victoria, the Cumberland. Sabine has been traipsing all over southern and eastern Victoria investigating the impacts and populations dynamics of that wonderful Hydrobiid, *Potomoppyrgus antipodarum.*

Visitors to DEEB have included **Dean Blinn** (see below for more detail on his visit) and Walter Dodds both who gave interesting and stimulating seminars whist here.

from: Deb Nias

In **Ian Campbells** lab, **Michael Shirley** has finally stopped stinking the annexe wing out with rotting fish, and is pretending to write up. **Kyla Finlay** and **Eddie Tsyrlin** are busy sorting out the taxonomy of mayflies and stoneflies respectively, and **Natalie Lloyd** is at the bug picking stage of her project. All postgrad students reported a fun time was had at the Aquatic Ecology Postgraduate Workshop held at Longbeach, NSW, meeting new students, discussing projects and of course, serious drinking (no doubt led by **Daryl Nieslen**). **Manasa Anapattalung** is currently visiting from Chang Mai university , writing up her Masters on the chemical indicators of water quality in Thailand. **Simon Treadwell** organised a one day workshop on the current understanding (lack of) of woody debris in rivers, in between organising postgraduate seminars for the department. **Mirly Parker**, meanwhile, is currently writing up her summer scholarship project on the predator/prey interactions of Golden Perch. **Ian Campbell** was last seen disappearing into a lecture theatre, and rumour has it that he is off soon to see the original Madri Gras in Brazil.

In **Paul Baileys** lab, Professor **Dean Blinn** from Northern Arizona University has returned to America after a three month visit. Whilst here, he was busy studying the effect of artificially elevated salinity levels on the community structure of epiphytic diatoms growing on macrophytes in a freshwater wetland with **Kim James** (who has returned from the UK, and is an "Honorary Research Associate"). Dean gave a fascinating and informative seminar as part of the Science at Monash public lectures, on the re-flooding experiment of the Grand Canyon. It would appear that the experiment was quite successful, but the long term effects remain to be seen. Dean hopes that the lessons learnt will be used for management of this spectacular environment. **Catherine Monagle**, a summer scholarship student was also interested in salinity, examining the effect of elevated salinity levels on seed germination. **Deborah Nias** meanwhile, is also pretending to write up, in between socialising with **Pierre Horwitz** (currently visiting at the Museum) and discussing future directions of the ASL.

WESTERN AUSTRALIA

Murdoch University

The "Age of Aquarius" is having quite a bit of impact on wet types at Murdoch

Arthur McComb has now officially retired, but remains with us as Emeritus Professor in Environmental Science. Watch this space (over the next millenia) for news of Arthur's replacement.

Belinda Robson, who did her undergraduate degree at Murdoch and obtained her PhD at the University of Tasmania has completed her migration pattern and returned home. **Belinda** is now lecturing part-time in Environmental Science.

Phil Papas has left us for wetter habitats and will join the Marine and Freshwater Research Institute in Heidelberg, Victoria. **Megan McGuire** and **Stefano Mazzilli** will be employed part-time to cover those projects that Phil escaped from just before the reports were due. (Thanks **Tim** - we owe you).

The Aquatic Ecosystems Research group has also been joined by **Liz Sanderson**. Liz, who is a lay minister with the Uniting Church, has been seeking excitement and a change of pace from her normal routine. To this effect she has been coming into Murdoch on her day off to sort bugs! Having now realized that is less interesting than reading Genesis in latin, Liz has turned her attention to macrophytes.

Miscellaneous

(Sorry Adrian but you'll have to stop sitting on the fence if you want a classification)

Adrian Pinder recently returned from a mammoth worm hunting exercise in Tasmania where he and **Richard Marchant** sampled over 60 sites in three weeks (not including stops for Devonshire teas). **Adrian** has spotted a couple of new species and there will probably be quite a few more.

Perth's wetland managers and researchers recently attended a Workshop on Wetland Monitoring run by **Jenny Davis** and **Pierre Horwitz** with **Max Findlayson** attending from ERISS to present an external perspective. Various issues relating to management and monitoring of wetlands on the Swan Coastal Plain were discussed and these will be presented in a written report, currently being prepared for the Water and Rivers Commission.

SOUTH AUSTRALIA

Australian Water Quality Centre
Macroinvertebrate Biomonitoring Unit

from: Peter Schultz

The projects continue to change, as one finishes a new project appears to keep us busy. Three projects in the South East of the State are now running smoothly as is the Dawesley Creek project. ANSTO (Australian Nuclear Science and Technology Organisation) involvement with this latter project is facilitating a number of research projects involving all three of Adelaide's universities. Four Honours projects have started or are in the pipeline due for a midyear start.

Two recently completed monitoring projects have been given new funding and will restart in the next financial year.

Paul McEvoy has started as another pair of hands for the MRH in South Australia. He is so far pleasantly surprised by the lack of traffic in Adelaide but horrified by the small size of some of the specimens we have to identify in our sub-samples from field preserved macroinvertebrate samples. **Paul, Chris Madden, Vladimir Tsymbal** and occasionally **Peter Goonan** from the EPA will soon be sampling 200 (or thereabouts) new sites in South Australia as part of the FNARH (surely the world's worst acronym!). **Peter** has been consulting with various government bodies and people with local knowledge to compile a list of sites with identifiable impacts for this survey. The models constructed from the first two surveys of the reference sites in 1994 are now complete and will be available for testing during April.

TASMANIA

Department of Primary Industry

Martin Read is now Aquatic Ecologist with the DPI, with **Henry Maxwell** his slave. Martin writes up his PhD in his spare time! DPI, along with Inland Fisheries Commission, the Hydro and Freshwater Systems (otherwise known as **Peter Davies**) are doing a water quality study of the Mersey River downstream of the dams. The project includes looking at habitat availability using IFIM methods.

The Inland Fisheries Commission will be moving from Davey St to Moonah in a few months. A big thrill this summer was the discovery of several *Galaxias pedderensis* in Lake Oberon, where they were released a few years ago in a effort to save the species from extinction. It seems likely that they have bred in their new habitat (previously fish-free). The glacial lake is an amazing 95 m deep.

In the Zoology Dept at the uni, **Leon Barmuta** has two new freshwatery students. **Chris Cleary** is doing honours on an endemic hydrobiid snail in Central Plateau lakes, and **Adam Uutendaal** (ex-Warrnambool) has taken up the project on turbidity in Plateau lakes previously started by **Dave Crook.** Dave left to take up a threatened fish job at IFC. **Leon Barmuta** and **Claire McKenny** have been playing with predators and prey in lab flumes, initially looking at reactions to light. **Peter Davies'** group (**Laurie Cook, Andrew Harvey** and **Claire McKenny**) are busy with projects on the downstream effects of hydro dams and artificial stream studies on the effects of forestry, between lunches at fine French and Italian restaurants. **Will Elvey** has left Peter's employ to start a PhD on the effects of trout on native fauna, supervised by Leon and Peter. **Brita Hansen** has just started a PhD with **Alastair Richardson** on the phylogeography of the endemic freshwater crayfish genus *Parastacoides*. She is hoping to be able to reconstruct some of the postglacial recolonisation routes used by members of the genus. This follows from Brita's Honours work on the alpha taxonomy which should yield a published taxonomy Real Soon Now (yes her supervisor did write this). **Jean Jackson** has struggled to get back into work after two months in Chile (see conference report), but now has the drawing pens going flat out on illustrations for caddis species keys.

PS. **Danielle Warfe** is starting a PhD with **Leon Barmuta** on something herbivorous!!

NORTHERN TERRITORY

NT MRHI

from: Jane Suggit.

The MRH team have been ploughing through the Top End "edge" samples with the help of 4 enthusiatic bug sorters from NT University. Thanks to Jo Thompson (formerly of MDFRC), Renee Bartolo, Eunice Astondoa and Maree Anderson for their efforts. They kept our section amused with all the lead up to the Darwin Desperate & Dateless Ball. If you want to hear what happened in the aftermath of the Ball I found out that you have to buy them a drink.

The recent AUSRIVAS launch in Canberra was attended by Jane Suggit who was fairly apprehensive about being re-presented with THE NET (the now famous Huon-Pine-finely-crafted-macroinvertebrate net) by the Federal Environment Minister. Mind you, I still don't understand why AUSRIVAS was chosen as the name for the MRH models, I thought PAHUBI had a much more elegant ring to it.

Cyrus Edwards has just returned from the Taxonomy Workshop but has not shown up at the office yet. We have reason to believe he has caught some terrible bug fever. Can any of the other attendees confirm this?

Water Resources Division: Lands. Planning and Environment.

from: Armando Padovan

The wet season this year could only be described as a deluge of rain which has persisted over the last two months resulting in very high water flows and submerged landscapes. The effect of Cyclone Phil was to saturate the soil, and the passage of cyclone Rachel two weeks later resulted in flooding of roads and properties in urban and rural areas. The daily rains since then has maintained high soil saturation and flows making field work difficult.

The Kapalga Project (**Simon Townsend**) and the Darwin Harbour Stormwater Project (**Armando Padovan**) are in full swing, with the number of field visits increased to accommodate the increased rainfall. Methods of transportation this year has had to follow sequence of 4WD, quad bikes, and now helicopters to reach sampling sites. We hope that either the weather will break of the budget holds out. The rum Jungle work (**Michael Lawton**) is facing similar dilemmas.

Lynne Powell, together with **Simon Townsend** have completed the Mary River Community and Technical Reports which focus on water quality in the Mary River Billabong systems. Over 40 copies were sent to government bodies, local land holders and other interested groups and individuals. Unfortunately, Lynne's temporary position at Water Quality has expired and she is currently focusing her attentions on completing her PhD thesis. Her company and efforts at the branch will be missed.

Our branch would like to welcome back **Danni Lloyd** who has recently returned from maternity leave. She is currently writing a report on the water quality in water holes in the west MacDonnell Ranges (Alice Springs) using data collected several years ago.

Centre for Tropical Wetlands Management, Northern Territory University

from: Michael Douglas

Michael Douglas is continuing work on Kapalga looking at the recovery of riparian vegetation and stream biota after the completion of experimental burning treatments. The work is being carried out in collaboration with the Water Resources Division and Parks Australia North and will involve additional research from **Stuart Bunn** (Griffith

University) and **Pete Davies** (UWA). Field work is carried out when the streams stop flowing, which could mean a bit of a delay given this years' bumper wet.

Karen Coombes has completed her honours project on the ecology of four species of Atyid shrimps in rivers around Darwin. The project was supervised by **Keith McGuinness** and involved an investigation of seasonal patterns of abundance and habitat use by the shrimps and earned her a First Class result. Well done Karen! **Kath Lynch** recently started an honours project looking at the salinity tolerance of several species of Melaleuca. The project will complement ERISS's coastal monitoring program and is being supervised by **Derek Eamus** and **Michael Douglas** (NTU) and **Max Finlayson** (ERISS) and has received funding from the CRC for Sustainable Development of Tropical Savannas.

Keith McGuinness and **Michael Douglas** have begun preliminary work on a one year project looking at the seasonal changes in species-area relationships for stream stone fauna. The study site (by no accident) is the stunning tourist destination - Litchfield National Park. If this preliminary work goes well then, Florence Creek could become the Acheron of the north!

Joanne Sedman is midway through developing a management plan for the Knuckey Lagoons area just outside Darwin. The area is well known for its abundant birdlife and there are strong concerns from locals residents about the future management of the area. Jo is working closely with the community and the Parks and Wildlife Commission to develop a plan that all parties agree on. This project is part of Jo's Masters of Tropical Environmental Management.

An interesting visitor to the North was the recently recovered **Sam Lake**. Sam was in Darwin to deliver a dose of intensive supervision to **Michael Douglas**, but he also gave free advice on filo-faxes and four-wheel driving. Sam's trip included an excellent seminar on Christmas Island crabs which was delivered to a capacity crowd. Sam also had a chance to test out his fishing jinx in Darwin harbour and, true to form, another fishless day was had.

Environmental Research Institute

from: Dr Bob Pidgeon

ANZECC is Reviewing the NWQMS Report Australian Water Quality Guidelines for Fresh and Marine Waters The Australian Water Quality Guidelines for Fresh and Marine Waters was released by the Australian and New Zealand Environment and Conservation Council (ANZECC) in 1992. It has become an important reference document for water resource management, policy development and for planning catchment management programmes. The guidelines were developed to facilitate the

ecologically sustainable management of Australia's water resources, and recommend appropriate levels of water quality for the protection and maintenance of the values that they support (eg. biodiversity and ecological processes, recreational use and agricultural uses), with some emphasis on the protection of aquatic ecosystems. The primary objectives of the review are:

- To incorporate current scientific, international and national information which is appropriate to Australian conditions.
- To produce a document that is sufficiently clear and understandable for the relevant authorities to use for consultation.

The Environmental Research Institute of the Supervising Scientist (eriss), based in Jabiru NT, has the responsibility for managing the review programme on behalf of ANZECC. To facilitate this process a Project Committee with very broad representation has been established to help guide the review programme and to critically examine the revised document before its release. In accordance with ANZECC's broad jurisdiction, it is intended, through this review, to extend the scope of the water quality guidelines to include consideration of New Zealand's water resources. The guidelines will also be expanded to include sediment quality and water for the aquaculture industry. They will also significantly progress the concept of using biological indicators as a tool for assessing water quality and ecosystem integrity. The scientific and technical aspects of the review of the guidelines are being carried out by a number of expert groups, including eriss, from across Australia and New Zealand. The Project Committee will be meeting at eriss in April to workshop the first draft of the revised document. The final draft is expected to be released for a three month public consultation period in mid 1997. The revised document will continue to provide a national framework facilitating water quality management in Australia and New Zealand, but is expected to strongly emphasise the need for regional and/or local management strategies that refine the water quality guidelines and focus water resource management toward this finer scale. If you wish to find out more about the review programme, or would like to have your name put on a distribution list when the draft is released for public comment, then please contact Mr K McAlpine at eriss [Ph (08) 8979 9705, fax (08) 8979 2076, E-mail kevinm@eriss.erin.gov.au].

Late last year the whole institute was involved in commenting on the draft EIS for the controversial mining of the Jabiluka uranium deposit. An interesting exercise is all we can say. There is now a study on the social impact of mining on the local aboriginal community underway and this team, jointly managed by the Northern Land Council and the federal government, is trying present its findings in time for it to be considered by the federal government when it makes a decision on whether the Jabiluka project can proceed. ERISS has been involved in facilitating this work but, fortunately for us, none of the wetland staff have been involved in this...so far.

In the wetland ecology group we have been trying to finish off some projects so we actually have time for new ones. **Kym Brennan** and **Max Finlayson** have, in collaboration with Wetlands International, just completed a project to provide

backgound information for the development of management plans for 5 Ramsar listed wetlands in the Kimberley region. **Max, Michael Storrs** and **Bill MacFarlane** returned safely from some work in Ghana where they carried out field studies (physico-chemical parameters, vegetation and benthos), on two large coastal lagoons on the Volta delta which are listed as Ramsar sites, again as information for management planning. That party is now over and the grind of sorting, data analysis and reporting are in progress.

New initiatives for this group include some collaborative work on wetlands with aboriginal communities in central Arnhemland and the commencement of a program for monitoring coastal change in Australia's wet-dry tropics. The work in Arnhemland will be directed towards asssisting in management planning for the preservation of wetlands and sustainable use of their resources. At the end of the last Dry season **Bob Pidgeon** and **James Boyden** conducted a preliminary survey of the distribution of freshwater fish as a basis for assessing strategies for to compile information on the distribution of fish for assessing strategies for sustainable harvesting of fish for the aquarium trade. One highlight from this trip was the extension of the known distribution of the threadfin rainbowfish (*Iriatherina werneri*) westwards by three river catchments. Needless to say, further trips are planned for next Dry season and, just maybe, our boat will get there in one piece next time. **Lisa Thurtell** and **Nadine Riethmuller** conducted another preliminary study of water quality and freshwater invertebrates in streams in this area and also plan to return next Dry.

The new coastal monitoring study will comprise the wet-dry tropics component of a national coastal monitoring program funded through the portfolio marine group of Environment Australia. It will focus initially on the Alligator Rivers Region of the Top End. The principal aim will be to determine historical changes in biophysical parameters of the coast and adjacent wetlands and establish procedures for monitoring and assessment of future changes in these parameters in this region. Differential GPS techniques will be used to obtain the best possible measurements of position and elevation for mapping and analysis. Remote sensing and GIS techniques will beused to assess the current situation and measure changes . Of particular interest in this area will be the threat of further salt water intrusion into the presently freshwater wetlands, a very real threat if the sea level rises as a result of global warming. **Ann Bull** is now rushing to assemble newly acquired hardware and software for our GIS facility in order to process the usual late rush of new data from this project.

In the risk assessment and restoration group **Scott Markich**, from ANSTO and **Caroline Camilleri** have continued the eriss - ANSTO association through a study into the toxicity of Cu and U to tropical freshwater biota. The research was funded by ANZECC, and will be useful for deriving water quality guidelines relevant to the wet-dry tropics. Further research is planned in this area, regarding the effects of various physico-chemical parameters on Cu and U toxicity. The group is presently involved with a project on the effects of the herbicide, tebuthiuron, commonly used to control

the weed *Mimosa pigra*, on several non-target organisms. Organisms assessed to date are the purple-spotted gudgeon, *Mogurnda mogurnda*, the cladoceran, *Moinodaphnia macleayi*, and the green hydra, *Hydra viridissima*, while an algal (*Chlorella* sp.) and macrophyte (*Lemna* sp.) species are also anticipated to be assessed. In conjunction with the CSIRO Centre for Advanced Analytical Chemistry and ANSTO, eriss is supporting an Honours student, **Natasha Franklin**, on a project which aims to develop an algal toxicity test relevant to the wet-dry tropics, and to then assess the toxicity of Cu and U to the algal species (*Chlorella* sp.).

Over the last 12 months, the Risk Assessment section at eriss has also been utilising its ecotoxicology resources, for several research and consultancy projects. **Rick van Dam** is currently undertaking a review of the status and role of whole effluent toxicity (WET) testing in water quality monitoring in Australia and NZ, to be incorporated into the revised ANZECC Australian Water Quality Guidelines. The report aims to identify the benefits and limitations of WET testing, and the its potential applications. In addition, it will summarise the development of WET testing protocols in Australia and NZ.

Well its been another big wet that has highlighted the limitations of designing bridges in this part of the world (Jabiru has been cut off from Darwin on several occasions this year). But not even a cyclone warning and flooded roads could stop one of our long-time technicians, **Abbie Spiers** from tying the knot in the New Year - huge effort Ab! The large Wet season has also made for some spectacular sampling trips out on the Magela floodplain for the Biological Monitoring team. Our ANU Honours student **Ben Gunn** managed to collect some bug samples from the floodplain soon after inundation as part of his study investigating sources and rates of colonisation. The splendours of the floodplain were fully experienced on one occasion when the outboard failed but other than that field staff came out unscathed. First impressions are chironomids, mites and worms are the first colonisers (bad luck Ben). Our other recently-departed (for Canberra not this mortal coil - hair-splitting I know) UC Honours student, **Marcus Stowar** is apparently at the data crunching stage of his project looking at effects of suspended solids from a road crossing on Jim Jim Ck.

The rest of us are ploughing on with the usual stuff - **Lisa Thurtell** can see the light at the end of the tunnel with her MRHI project on QA/QC of sorting, **Chris Humphrey** remains huddled over his computer reporting on his various R & D projects for the NRHP and a review of biological monitoring procedures for the ANZECC water quality guidelines while **Ruth O'Connor** contemplates a mass of billabong samples and data from our monitoring program from Magela Ck and wonders why she came back from holidays.

LETTERS TO THE EDITOR

A few random thoughts on the Where to in the Future of the ASL?

The two Editorials in the September issue of the Newsletter pose the question of the future of the ASL. What should we aim to be? How can we contribute? How do we measure our impact and success? Since the discussions at Berri, such questions have popped up in my mind during the idle hours at work (so common are they that it has taken so many months to formulate a response). The possible futures seem to be mainly:

1. Do nothing and stay as we are
2. Become more active in biodiversity and conservation debates (ASL as a supporting organisation)
3. Adopt a more "aggressive public stance" (ASL as a lobby group)

The first option seems to assume that we are currently ineffective as an organisation. I think the "future" debate has downgraded the contribution of the current ASL to aquatic conservation. As a source of information (through the Newsletter, Conferences, Publications and, more importantly, the networks), members have access to up-to-date information on aquatic science and have/can used/use that information in the conservation debate. This, I am sure, has added to the success of local conservation measures and decisions.

I am saying this from a State public service background. It is at this level that all the little decisions are made (whether a particular diversion goes ahead, whether a particular small development goes ahead, or under what conditions - you know - the Sewage Treatment Plant on a local creek level). These day to day issues never get onto the public stage, let alone the national one. Most are not worthy of that level of interest (they don't involve internationally significant sites like the Cooper's Creek). In the solution of these issues, there is usually a small band of decision makers (or more correctly, a small band of advisers to the decision maker). And often, that small band consists of some ASL members who come armed with the information provided and enhanced by value of that membership (maybe another option that we become a Secret Society should be explored?)

However, on the bigger picture, broad scale aquatic conservation is largely in tatters. Rivers and wetlands are generally degraded and declining. Outrageous development proposals only add to this threat. If ASL members wish to contribute more to aquatic conservation, then it is necessary to adopt one of the latter options for the future. To help the big picture, we need to do it.

The idea of a "Lobby Group" always brings to mind small groups of skulking shadowy seedy individuals leaping out from behind pillars in the entrance to Parliament House as their unsuspecting target passes. "We have photos of you and your secretary during the so-called fact-finding mission to the Bahamas. In the light of this, you might like to consider your vote for the Control of Controlled Substance Act. In our humble opinion, we suggest you vote against it" (lobby group opinions are always humble).

While the skulking and leaping may be more of a fiction, the one thing about lobby groups is that they have a particular, usually quite specific, barrow to push. They represent an interest group with a fairly narrow goal in mind. Consider the Wilderness Society, the Tobacco lobby, the Gun lobby. Each of these has a well defined mission, one that really has no obvious grey areas. This is necessary in a lobby group. Any deviation by some members from the party line and the critics move in. "They're divided, their opinion is useless." And so they dwindle in influence and usually disappear.

And because of that well defined position, it is a fairly simple matter for their elected executives to respond rapidly to issues as they arise. The barrow they push is quite clear.

But what is the ASL barrow? In the description in the front of this Newsletter, the ASL "has a vested interest in the conservation of aquatic and related resources." I find it hard to imagine the ASL lobbyist sneaking into the Environment Ministers office with "me and da' limnos want you to support aquatic conservation". It seems a little vague premise for a lobby group. A little like telling them to support Holdens, wattles, meatpies and football (of whatever code).

So for the ASL to become a lobby group, we would need to define our "position" fairly clearly, so that it can rapidly be applied to potential issues. And that "position" must reflect the members of the Society. Given the diversity of interests, views and responsibilities within the Society, I doubt whether that can be achieved. An example perhaps.

The biggest "politico-environmental" issue at the moment is the partial sale of Telstra and the diversion of some of the funds to help the Murray-Darling system. The end point is a laudable objective and well within the interests and desires of all ASL members. As a lobby group or high profile political organisation, the ASL should have a stance on this issue? As a lobby group with aquatic conservation at heart, we should be obliged to lobby the Democrats and Opposition to take a particular stance. Support the sale and save the world, or block the sale and protect Government-owned assets.

Despite my adherence to the goals of the organisation, I would have to take the latter stance. I'm sure some, maybe many, others would disagree. I don't think that the diversity of the ASL membership would make a clear, consistent and coherent position

likely. I suspect the membership would be split on which way to go on this particular issue.

There are probably particular issues where all, or the vast majority of members would agree. The trick would be to devise a set of policy criteria which could be applied to any issue to determine if a sufficient number of members would take a particular stance. But if we only comment aggressively on selected issues, what about the other issues where we are asked to comment. If we are successful in becoming this political animal, our opinion would be sought, probably by the media. It would only take a few "I'm sorry, but ASL can make no cohesive comment on that issue" before we become irrelevant and we can all go back to masturbating in boats.

The lobby option has a very big potential for conflicts of interest - one member may be involved in the process through work (most likely as a Government Department employee) and is therefore obliged to support a particular position (whatever happened to the fearless independent Public Service?). The ASL decides to oppose the Governments position. It is likely that the member would be required to formulate the response by the minister to the ASL position (this may not occur, as a lot of Government employees actively distance themselves from membership of lobby groups - even though they may support the ideals of the group).

Would such a member be expelled from the ASL? Remember, internal dissent is death for a lobby group.

Consultants may find themselves in the same boat. I don't want to get into the Independent Consultant debate, I know this is a contentious issue. But working for a company places certain pressures on a consultant. In many ways it's the same as the above Public Service example.

Would such a consultant be expelled from the ASL?

These are issues about lobbying that need to be addressed (add the fact that permanent employees of ASL might be needed - who has the time to go off lobbying - and the impact on fees, leading to the impact on student membership etc). If that is the way to go, then some serious thinking is required. I'm not sure I can think of a scheme where we can be a lobby group and still retain all the advantages and values that the society has at present. Perhaps the second option may hold more promise.

In my humble opinion, the most important role that ASL can play is to be an authoritative and independent source of advice for issues, rather than pushing particular positions. This is reflected in the goal of the ASL in it's wetlands policy (Vol. 34(3) p. 38): "to provide scientifically-based information to conserve and rehabilitate Australia's wetlands". Almost a subtle difference, but rather than leading the debate, it is providing the ammunition to direct the debate towards the ASL goal

(providing the scientifically-based information is accurate and defensible). It is the credibility of the ASL in this field that gives it the strength to achieve this goal.

So how do we go about doing it? In part, the process is in train. Membership of policy groups, advisory groups, steering committees etc. ASL members are infiltrating everywhere. But aren't these appointments based on the experience and personality of the individuals selected, rather than membership of ASL. I'm not sure how we would get them to invite ASL to nominate someone to a committee, and then be sure that they would approve our choice. Mmmm. Maybe the Secret Society is a better option.

If the second option is chosen as the path to take, the "how" of it would need more thought. But I believe it is the right path.

Well, that's the end of another spare slack period at work. The FAX machine is humming - some urgent message requesting advice on some urgent issue, no doubt.

See you.

Tim Doeg
Department of Natural Resources and Environment
4/250 Victoria Parade, East Melbourne 3002
Phone: (03) 9412 4243
Email: T.Doeg@dce.vic.gov.au

Response 1

Being involved in the continuing saga of Cooper's Creek has focussed my thoughts on the debate as to the future form of the ASL.

1. I think what is lacking from the public arena is solid scientific information which is relevant to Australian 'wet' ecosystems. There are many 'green' lobby groups (often including concerned locals) fighting to save wetlands and rivers from many developments (e.g. Fitzroy River, Paroo, Cooper's Creek) but they are often hampered by access to scientific information especially information which is relevant to the type of ecosystem under threat (e.g dry land rivers). In addition, they don't know who to contact to obtain the information.

2. ASL members have access to or are generating up-to-date information but are not interested in or don't have time to be involved in political lobbying.

3. Govt. Ministers and Senators (and therefore their Advisors) are often not well informed about specific ecosystems and appear to not understand the fragile and dynamic character of many of these systems.

4. Therefore I believe that the ASL should produce a series of policy statements (with attached lists of experts) each focussing on a type of ecosystem. We already have the wetlands document - and I think the next one should be on Dry Land Rivers/wetlands. Such documents can be circulated to Govt. Depts., Wilderness Society, interest groups etc. as a means of information provision. Then we overcome the current problem of not being known without becoming politically active as a Society.

Kerri Muller
Department of Botany
University of Adelaide
Adelaide, SA 5005
Email: kmuller@botany.adelaide.edu.au

Response 2

I agree totally that the main need is for a group to provide independent scientific advice. We've got lobby groups coming out of our ears, and most are focused on very specific local issues - they are certainly not contacted on an ongoing basis when relevant issues crop up. The ASL is strongly placed as a group of credible experts with wide-ranging expertise who will state a position based on scientific fact and/or professional opinion, not with a 'barrow to push'. So I agree with Kerri, that a series of position papers, with a 'for further information, contact xxxx' (I don't mean the beer!), is the best way to go. The relevant Ministers (both State and Federal), Premiers and the Prime Minister should also get copies - they might not read it but their minders will and file it for future reference.

Gillian Dunkerley
dunkerleyg@bank1.epa.nsw.gov.au

ALBURY CONGRESS 1997

36th ASL Congress

Albury Convention Centre

September 26-29 1997

Details of travel, accomodation, registration, papers & posters and conference tours are given in the registration papers included with this newsletter.

For convenience, here are the rules for the Student Travel Award and the Student Prize.

STUDENT TRAVEL AWARDS

Applications are invited from research students for travel assistance to attend and present a paper at the Annual Congress of the Australian Society for Limnology. The purpose of this assistance is to encourage students to present the results of their work in public. Students who are carrying out research in any branch of limnology for a higher degree are encouraged to apply. The following rules apply for assistance:

1. Applicants must be full-time postgraduate students at any Australian University, College of Advanced Education or Institute of Technology. There is no age limitation. Applicants must have current financial membership of the ASL for at least 6 months.
2. Assistance will be granted on the recommendation of a panel of three appointed by the Society.
3. Applications must include a written statement of no more than 2000 words describing the research, its significance and the stage that has been reached. This statement must be endorsed by the student's supervisor. An abstract of the paper that the applicant proposes to present must also be included.
4. Award of assistance will be judged on: (i) significance of the work; (ii) originality and soundness of the research; (iii) the progress made and whether the stage has been reached where something useful can be presented; (iv) ability to present a clear and concise statement of the study.
5. Applications must be lodged with Dr Richard Marchant, Museum of Victoria, 71 Victoria Crescent, Abbottsford, VIC 3067 by **30th June**.

STUDENT PRIZES

At the Annual Congress, there will be three student prizes of books (chosen by the recipient) to the value of $100. The prizes are:

1. Prize for the best oral presentation by a Ph.D. or Masters student.
2. Prize for the best poster presentation by a student.
3. Prize for the best oral presentation by an Honours student.

Posters will be assessed during the dedicated poster session and must be attended by the author, who will explain the presentation and field questions. There will be no oral sessions concurrent with the poster session.

The Honours prize was felt desirable because for a number of years members have felt that recent Honours graduates are less experienced at oral presentations and are therefore disadvantaged compared with other graduate students who have nearly completed their research. We hope this prize will encourage recent Honours graduates to attend Congresses and share their results with other members of ASL.

To be eligible for a student prize, students should be current, financial mambers of ASL, and must give their presentation within 18 months of recieving their degree. The student prizes will be judged by a committee or committees convened by the ASL Executive at the Congress. Wherever possible, such committees will not contain supervisors or co-authors of candidates for the prizes.

CALL FOR JOLLY AWARD NOMINATIONS

The Jolly Award commemorates Hiliary Jolly, a founding member of the Australian Society for Limnology, and is presented to a person who in the opinion of the Society, has made an outstanding contribution to Australian Limnology. The Jolly Award has become the Society's most prestigious prize, considered by members to indicate overall scientific excellence and outstanding achievement.

Any person may be nominated for the Award, but nominations may only be made by financial members of the Society. The nomination must be in writing and must be seconded by a financial member of the Society. Nominations must include a brief supporting statement and a current copy of the nominee's CV. Nominations remain valid for 3 years. An award is not necessarily made each year.

The full regulations governing the award are outlined below.

Nominations are now called for 1997.

Three copies of each nomination should be forwarded, **by 29th August 1997**, to Dr David Mitchell, *The Johnstone Centre, Charles Sturt University, PO Box 789, Albury, NSW 2640.*

JOLLY AWARD REGULATIONS

The following guidelines have been developed with a view to maintaining the stature of the Jolly Award.

Regulations concerning the structure and functioning of the Jolly Award Committee.

Membership and meeting of the Jolly Award Committee

1. The committee shall consist of the three most recent recipients of the Jolly Award. If this is not possible then past recipients, chosen in chronological order, will be added to the committee until it comprises three members.
2. The constituted committee should discuss the award, preferably together at a meeting or by telephone. If this is not possible, for example if a member of the committee is absent from the country for an extended period, then that member should be replaced as described in Point 1. The committee may seek the opinion of the absent member by post, fax or email.
3. The committee's chairman will be the most recent recipient of the award and he/she will be responsible for organising the call for nominations, circulating nominations and arranging suitable meetings for the selection process. The Secretary of the Australian Society for Limnology will maintain records and assist the chairman as required, but will not have voting rights.
4. The decision to make the award must be unanimous, except if a nominee has been promoted to go forward by two members of the committee, during two consecutive annual rounds of selections. In this case the President and Vice-president of the Society will be asked to join the committee and an award can be made on a majority decision. If an award is not made then the situation will revert to normal for the following year.
5. A committee member may not vote on a nominee who works in the same department or shares research projects. If it becomes apparent that such a conflict of interests may occur, then the committee member should be replaced as described in Point 1.

Nominations

1. Any person may be nominated for the Jolly Award.
2. Only financial members of the ASL may nominate a person for the award. The nomination must be in writing and must be seconded by a financial member of the Society. Nominations must include a brief supporting statement and a current copy of the nominee's CV.
3. Nominations will remain valid for three years, after which a person can be renominated as in Point 2.
4. A Society member may be the primary nominee for only one candidate.

Selection Criteria

1. The Jolly Award is not an annual award, but is made on the basis of an outstanding contribution to Australian limnology. The selection committee should ensure that the stature of a successful candidate is commensurate with that of previous recipients.
2. A primary consideration is excellence in the field of limnological research, as demonstrated by key research papers and scientific publications.
3. Consideration should also be given to candidates who have played a major role in the advancement and dissemination of limnological knowledge, particularly where this enhances the information available on Australian aquatic systems.
4. The Award is not intended for administrative excellence or for service to ASL. These are more appropriately recognised by other awards, such as life membership of the Society.

Citation

The announcement of an award will be made at the annual conference and will appear in the Society's Newsletter accompanied by a citation describing the reasons for the award.

Award Value

The nature and value of the award will be determined by the Executive Committee of the Society.

Dr Rod Oliver
(ASL President 1989/90).

ARTICLES

LIMNOLOGY DOWN UNDER

As many of you will be aware, a Congress of SIL (International Association of Theoretical and Applied Limnology) will be held in Melbourne, Australia in 2001. We are hopeful that many of our colleagues from outside Australia will be able to attend the Congress. To encourage you to make the trip, we'd like to remind you of the variety of limnological environments that exist in Australia, and the main avenues by which you can learn more about the limnological research that is being undertaken here. Although Australia is the driest inhabited continent, it has a remarkable limnological diversity, ranging from lakes that are ephemeral and saline in the outback to pristine deep-water ones in the highlands of Tasmania, from bubbling brooks in the mountains to long and lazy floodplain rivers, from monsoonal wetlands in the north to mediterranean-climate wetlands in the south-west and wonderful billabongs in the south-east.

How do you acquaint yourself better with Australian limnology, in preparation for your trip Down Under in four years' time? There are two ways. The first way is to subscribe to the journal *Marine and Freshwater Research*. This journal is one of range of journals published by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in cooperation with the Australian Academy of Science. The name of the journal changed in 1995, from the *Australian Journal of Marine and Freshwater Research*, to reflect the fact that material published in the journal was not restricted to papers relating only to the Australasian region. The journal publishes eight issues per year, amounting to some 110-140 original refereed papers dealing with physical oceanography and limnology, marine and freshwater chemistry, and marine, estuarine and freshwater biology and ecology. The personal subscription is merely $US120 and the institutional subscription is an equally reasonable $US350. Overseas subscribers receive their journals by air or economy air mail. In addition to articles and reviews, the journal publishes Special Issues on key aquatic themes. Some recent Special Issues have included Age Determination in Fish, Cyanobacterial Research in Australia, Sediment-Water Interactions (papers from the 6th IASWS symposium held in California), and Australian Wetlands. Further information on *Marine and Freshwater Research* can be obtained at http://www.publish.csiro.au/journals/mfr or from the Editor (email: agrant@publish.csiro.au).

The second way is to join the *Australian Society for Limnology*. Membership is only $A65 for regular members and A$32.50 for students. For less that the price of a meal in a restaurant, you will receive the Newsletter (80-90 pages long) published quarterly, plus Special Publications issued by the Society. The most recent Special Publication was on Australian Mayflies. Further details on the *Australian Society for Limnology* can be obtained from its Home Page (http://www.ntu.edu.au/science/mdouglas/asl_home.html) or from me (email: paulboon@vut.edu.au).

Paul I Boon
Chairman, Advisory Committee, *Marine and Freshwater Research*
Immediate Past President, *Australian Society for Limnology*

LETTER FROM ERITREA

(This letter arrived in July 1996 but was temporarily mislaid by the Editor - apologies)

Mainly good news from Eritrea

Patricia Geraghty, Water Resources Department, Asmara, Eritrea (on a two year placement through the Australian Volunteers Abroad programme).

The really bad aspects include: no permanent rivers, low rainfall in much of the country and a short and often damaging rainy season in the better served areas, insufficient food for the population, severe erosion, deforestation, high disease and mortality rates, little or no infrastructure, a devastated economy (largely the aftermath of a 30 year war for independence against Ethiopia), and a per capita income of less than $US 100 per year.

Can there be any good news in contrast to this pretty overwhelming list? Sure! In relation to water resources and their management, the picture at present is quite positive. Because there is so little baggage, no entrenched power bases, no corruption and no national debt, the international community perceives Eritrea as a suitable candidate for all sorts of assistance. And this country's Government is ensuring that any aid is complementary to national policy and largely untied. All of the many projects being coordinated by the Water Resources Department (WRD) are funded by external agencies or other countries and fit the Government's priority order of implementation. It is surprising how much power can be wielded by the receiver, as long as there is a clear strategic direction to follow. No grovelling on the part of Eritrea!

A good example of the sort of project occurring here is the "Sector study on water resources and irrigation potential in Eritrea". This is funded by the European Union to the tune of about $US 5 million in the first instance. the 40 odd pages of terms of reference were drawn up by a group with representatives from the WRD, Ministry of Agriculture, the Office of the President, and the European Union.

The main objective is to produce an overall and realistic view of the water resources and irrigation potential of Eritrea to determine their sustainable development. In order to do this, a systematic assessment of currently available information (of all sorts) will be made and listed in a document-file. Areas of interest include geology, surface water, meteorology, soils, landuse, vegetation, export-import information, demography etc.

The data are already known to be insufficient, discontinuous or non-existent in some areas. In order to fill one of the gaps, a national grid for hydrometrical and climatological stations will be established. Groundwater resources are often the sole

source of supply in Eritrea and a large number of drilled and dug wells have been constructed throughout the country. Well data are available for some few of these wells and a systematic drilling programme will augment the database.

Water quality is of great concern in some areas, in relation to salinity and alkali problems in particular. WRD has a laboratory which undertakes standard physico-chemical and bacteriological tests but there are no facilities for measuring levels of man other parameters, eg. organic compounds. Hence the laboratory, both in terms of equipment and staff, will be upgraded.

At present there are no detailed national maps on soils, vegetation and land classification so it is proposed to prepare these based on a 1:100,000 topographic map completed by the former USSR. Land with ground slopes from 0 to 12.00% will be focussed on. Eritrea has a satellite image map put together in the last few years and satellite remote sensing data will be utilised where possible.

Hence, this sector study provides at least a start to being able to make sensible decisions about water resources development in future years. I am really impressed that this country, only 3 years after its birth, is instigating basic inventory and mapping activities and establishing resource management strategies, rather than going down the dismal path of vast schemes, like building enormous dams or extensive irrigation projects.

I am on the Evaluation Committee assessing the Tender proposals for this project. It will start early next year (1997) so I'll keep ASL in touch with its progress.

IMPACT OF LOWERING GROUNDWATER ON WETLAND VEGETATION

I am seeking information as to the impacts of the lowering of groundwater in a freshwater/brackish/salt wetland on the north coast of NSW. The groundwater lowering is caused by a deep drain next to the wetland.

The available information suggests that groundwater levels may be lowered by anything up to 0.5m or more near the drain. The wetland species present are:-

- mangroves (in the tidal section of the wetland);
- some species of *Juncus* (?sedge-like, sorry I'm not a botanist) and *Melaleucas*. These are on a bench, raised about 0.3m above the tidal level in quite an abrupt rise. Presumably require brackish/freshwater.

My main area of ignorance is in the depth of the plant roots, and so the impact on the vegetation of lowering the level of the mostly fresh groundwater. Is a fall in mean groundwater level of 0.5m significant? Is a smaller fall likely to be significant in terms of impact on vegetation?

A quick direct response would be appreciated. I would also like to be told about published information - I am aware of the Perth, WA wetland studies and one done by the Shortland Wetland Centre on water table depths in mid-NSW coastal Melaleuca swamps.

Many thanks.

Gillian Dunkerley
NSW EPA
dunkerleyg@bank1.epa.nsw.gov.au>

and the response so far from the ASL Newsgroup.....

The following information was obtained from Rod Buckney, Stuart Blanch, George Ganf, Bill Allaway, Paul Adams, and Ray Froend via the ASL Email Newsgroup. I thank them for their prompt and helpful responses. Any errors in summarising what they wrote are mine.

In general, lowering of water tables must have an adverse effect upon wetlands - after all they are wetlands which have a unique plant community composition. Overall, the wetland vegetation will probably move lower down the bank over a

period of several years. The top of the bank may be colonised by more terrestrial species. Another point to remember is that, as the aquatic vegetation is removed, water will be lost via evaporation and salt will accumulate at the surface. The exact critical depth depends upon the hydraulic conductivity of the soil. The presence of vegetation at least ensures the salt is excluded throughout the soil profile. Another effect of such a drain may be to change the balance of fresh and salt water in the wetland and thereby cause changes in such things as soil salinity, etc. resulting in invasions by other species (perhaps weedy ones) or spread of existing ones. The direct impact of changed groundwater level on the wetland plants will be determined by availability of that water to the plants, which is related to root depth. How far roots will penetrate the soil profile is a function of soil type and water availability as well as the quality of the water. *Phragmites australis* sends roots down at least 1 m. *Baumea arthrophylla* and the other *Baumea* species (and possibly *Juncus*) will have roots down to at least 0.5 m. *Melaleuca halmaturorum* has the majority of its roots in the top 1 m. However, the vertical distribution depends on may factors. The smaller herbland species (*Mimulus repens*, *Cotula* spp., *Triglochin striata*, *Ruppia* spp.) have shallow roots (ca. 20 cm). Saltmarsh species roots may extend only 50 cm. Mangrove roots are likely to be concentrated in the top 50 cm but may go down 1 m. They may be stressed by the reduction of fresh groundwater, but are unlikely to be replaced by other species while tidal flushing is maintained. Though plant roots will track declining soil moisture into the soil profile for very long distances to maintain an adequate plant moisture for photosynthesis, a drop of 0.5 m would greatly affect a plant's water balance, hence growth. The effect of soil moisture on the sedge *Bolboschoenus medianus* in the lower Murray was examined and it was found that differences of only 20 cm made large differences to growth. It is believed that a fall in the mean groundwater level of 50 cm would be highly significant - you go from Casuarina swamp to mangroves in Botany Bay in less than half a metre of vertical elevation. I would expect major changes in the vegetation, though how drastic these would be depends on the flood frequency, tidal range, etc. For example, a lowering of 0.5 m if you're already right at the top of the tidal range would be expected in the long term to turn the vegetation over to terrestrial vegetation. Lesser lowerings would be expected to have lesser effects.

Gillian Dunkerley

E-mail: dunkerleyg@bank1.epa.nsw.gov.au

ANNOUNCEMENTS

WATER SCIENCE DISCUSSION LIST

A water science discussion list watersci has been created. You are encouraged to join this list and add to the discussion.

Subscription is free to anyone on the net. Note that generally lists are slow to gain momentum as new subscribers join so feel free to kick off some topic of discussion or ask a question. To ensure the success of this list as a communication tool would you please spend a little time telling your network of its existence and suggest that they subscribe as well. You are encouraged to forward this email to anyone you know interested in water science.

Areas of interest include the following:

- Biological indicators
- Catchment and water quality modelling
- Catchment management
- Catchment processes
- Conferences
- Coastal (oceanographic) processes
- Coastal waters
- Estuaries
- Eutrophication
- Impact assessments
- Inland waters
- Marine and freshwater ecology
- Microbiologal water quality
- Protocols and standards
- Research design
- Sediment-water interactions
- Statistical methods
- Trace contaminants in aquatic ecosystems
- Water storages

These 'areas of interest' are only intended to stimulate interest and not to define the overall bounds of the List. Obviously there are others worthy areas of discussion and these will become apparent as the List develops.

To subscribe send the following email message to
majordomo@mail.usyd.edu.au
subscribe watersci

To unsubscribe send email to majordomo@mail.usyd.edu.au
unsubscribe watersci

To send a message to the watersci list, simply send email to:
watersci@mail.usyd.edu.au

If you need to contact the person who administers the watersci list, send email to:
owner-watersci@mail.usyd.edu.au

This discussion group is open and unmoderated. Views expressed are those of the authors. This list has been set up by the Water Studies Section of the Environment Protection Authority of NSW, Australia.

If you have any questions or need help to subscribe please call

Bill Hall
Database Manager, Water Studies
Environment Protection Authority of NSW, Australia
hallw@bank1.epa.nsw.gov.au
www.epa.nsw.gov.au
tel +61 2 9795 5385

CRCFE/MDFRC - SEMINARS 1997

(held in the MDFRC seminar room, commencing at 3.30pm)

APRIL

24 Professor John Gilbert (Dept. of Biological Sciences, Dartmouth College, Hanover, New Hampshire)
"Asexual diapause in the rotifer *Synchaeta pectinata*"

MAY

15 Dr Martin Thoms (CRCFE, University of Canberra)
"Impact of flow regulation on the Lower Murray"

JUNE

19 Dr Srebrenka Kunek (School of Visual and Performing Arts, Charles Sturt University-Murray)
"The spineless wonders ..... cultural and natural diversity of the Murray-Darling Basin"

JULY

17 Dr Ben Gawne (CRCFE, MDFRC, Lower Murray Laboratory, Mildura)
"Observations of lowland streams in Nebraska"

AUGUST

14 Dr Chris Wilson (Research School of Biological Science, ANU, Canberra)
"Systematics and evolutionary biology of Australian Daphnia"

SEPTEMBER

18 Mr Geoff Gooley (Marine & Freshwater Resources Institute, Alexandra)
"River 'improvement' works: fisheries management - opportunity or threat?"

OCTOBER

16 Dr Will Osborne (CRCFE, University of Canberra)
"Declining frog populations in the Upper Murray catchment: addressing the hypotheses about decline"

NOVEMBER

13 Dr Paul Humphries (CRCFE, Department of Ecology and Evolutionary Biology, Monash University, c/o MDFRC)
"The Campaspe flow manipulation project - 2 years on"

DECEMBER

11 Ms Lor-wai Tan (CRCFE, Department of Environmental Management & Ecology, La Trobe University - Wodonga)
"The world of very small animals - Spot the testate"

For further information contact the convenor, Ms Rhonda Sinclair on (060) 582 300 or email sinclair@mdfrc.canberra.edu.au to ensure the seminar is being held.

DRAGONFLY INFORMATION WANTED

Juergen Ott, a German odonatologist, is currently looking for information on the dragonfly *Crocothemis nigrifrons* as part of a book he is writing on *C. erythraea*. If you can provide Juergen with any information at all (apart from the info. already in "The Dragonflies of Australia") his email address is L.A.U.B.@t-online.de.

CONCHOSTRACANS WANTED

Chris Wilson (RSBS, ANU) is trying to get samples of conchostracans from across Australia to reasses the taxonomy and phylogeny of the group. If anyone's willing to help out, please contact him.

Chris Wilson
Research School of Biological Sciences
Australian National University
Canberra, ACT
Australia 2601
Fax +61 (06) 279-8294
Phone +61 (06) 279-8261
Email: cwilson@rsbs-central.anu.edu.au

MASTER'S DEGREE STUDENTSHIP 1997-1999
UNIVERSITY OF TECHNOLOGY, SYDNEY

Bioindicators of estuarine health in the Hawkesbury River

$17,000 pa Master of Science (by thesis)

Applications are invited for an industry-UTS sponsored studentship, closing May 30, 1997. Funding is provided by Hawkesbury-Nepean Catchment Management Trust, Cowan Creek Catchment Management Committee and UTS Industry-link program.

The Hawkesbury-Nepean and other river systems in Australia are under increasing threat from urban and agricultural pollution. Estuarine regions, in particular, are sites of accumulation of pollutants and direct human disturbance. Estuaries support diverse and productive biological communities and are sites of thriving commercial and recreational fisheries.

This project will involve the development and evaluation of early-warning biomonitors of estuarine health in the Hawkesbury estuary, north of Sydney. Specifically, it will

- evaluate previous studies of biological communities in the Hawkesbury estuary that relate to health of the system, and investigate the merits of "rapid-assessment techniques" currently in use for freshwater regions for monitoring marine and estuarine areas
- establish a research program that evaluates several potential biomonitors of estuary quality, using sites of different water quality and community structure
- adapt useful biomonitors for use in community-based Streamwatch and other monitoring programs

Applications

The student should be an Australian citizen or permanent resident, have an undergraduate degree in Science, and have a demonstrated ability to conduct and present research (e.g. an Honours degree, published papers, conference presentations). Applications addressing these points, and including a curriculum vitae should be sent by May 30, 1997, to

Dr. David J. Booth
Department of Environmental Biology and Horticulture
University of Technology, Sydney
Westbourne Street
Gore Hill, NSW 2065

For further information, please contact Dr. Booth on 02/9514 4053 (phone), 02/9514 4003 (fax) or David.Booth@uts.edu.au (email)
http://www.bio.uts.edu.au/people/dbooth/index.html

NEW DISCOVERY

The heaviest element known to science was recently discovered by physicists. The element, tentatively named Administratum, has no protons or electrons and thus has an atomic number of 0. However it does have:

1 neutron.
125 assistant neutrons
75 vice-neutrons
111 assistant vice-neutrons

This gives it an atomic mass of 312. The 312 particles are held together by a force that involves the continuous exchange of meson-like particles called morons.

Since it has no electrons, Administratum is inert. However, it can be detected chemically as it impedes every action with which it comes in contact. According to the discoverers, a minute amount of Administratum causes one reaction to take four days to complete when it would have normally occurred in less than one second.

Administratum has a normal half-life of approximately three years, at which time it does not actually decay but instead undergoes a reorganization in which assistant neutrons, vice neutrons, and assistant vice-neutrons exchange places.

Some studies have shown that atomic mass actually increases after each reorganization. Research at other laboratories indicates that Administratum occurs naturally in the atmosphere. It tends to concentrate at certain points such as government agencies, large corporations, and universities, and can usually be found in the newest, best appointed, and best maintained buildings.

Scientists point out that Administratum is known to be toxic at any level of concentration and can easily destroy any productive reaction where it is allowed to accumulate. Attempts are being made to determine how. Administratum can be controlled to prevent irreversible damage, but results to date are not promising.

NEWS FROM FASTS

Further Information: Mr Toss Gascoigne, Executive Director, Federation of Australian Scientific and Technological Societies (FASTS), PO Box 218, Deakin West, ACT 2601
Phone: 06-257 2891 (work); 06-249 7400 (home); Fax: 06-257 2897
Mobile: 0411-88 3418
Email: fasts@anu.edu.au
Web address: http://bimbo.pharmacol.su.oz.au/fasts/fastshome.html

Science Forum to tackle "Australian malaise"

Professor Ian Lowe, of Griffith University's Faculty of Science, gave the keynote speech to a one-day Forum on career opportunity for young scientists. Professor Lowe called for governments in Australia to support the industries of the future rather than the industries of the past. He described the present policy settings as "bizarre", and said that Government should look again at payroll tax, corporate tax rates, and the "profligate use of natural resources". "Our systems are set up to reward the land speculators and the corporate take-over specialists, rather than the people who add value to the economy," he said. "We should be looking to the high technology industries of the future, rather than the highly-subsidised resource based industries."

"Until the country gets its reward structure sorted out, Australia will continue to lose out on the growth industries of the future. These are all technology based, and include medical instrumentation, pharmaceuticals, telecommunications and laser technology," he said. He cited stagnant funding for research, and the cutting of tax concessions for industrial R&D from 150 per cent as evidence of the "Australian malaise" in science. Further examples are the serious threat to the Factor (f) scheme, and limited opportunities for scientists in research.

"Most research jobs today are offered on the basis of short-term contracts, and their attractiveness is further reduced by a comparative decline in salaries. It's hard to be a scientist these days - but that's where the future lies," Professor Lowe said.

Government, industry, funding bodies and research organisations will seek constructive solutions to the problem of science careers at the Forum, which is organised by the National Tertiary Education Union (NTEU) and the Federation of Australian Scientific and Technological Association (FASTS).

Speakers at the Forum included:

Professor Trevor Cole, the Warren Centre at Sydney University
Dr Doreen Clark, Managing Director Analchem Bioassay
Mr Michael Buckenham, President of the Australasian Institute for Mining and Metallurgy
Professor John Stocker, Chief Scientist
Dr Janice Hirschorn, Policy Director, Australian Pharmaceuticals Manufacturers Association
Professor Peter Cullen, Vice-President of the Cooperative Research Centres' Association
Hon Peter McGauran, Minister for Science and Technology

FASTS circular for March.

1. **The Careers Forum**: The National Press Club was the ideal location to make the important national point that S&T is part of the mainstream of life, and needs to be taken into account with all the other factors in setting national policy.

   Both the Minister for Science and Technology Peter McGauran and Shadow Minister Martyn Evans made interesting contributions to the Forum on science careers at the National Press Club on March 19.

   The Forum was organised jointly by FASTS and the National Tertiary Education Union, and brought together 150 people from research, industry, government and science funding bodies.

   There was wide participation by industry, funding agencies, the universities, and (most pleasing) young research scientists. The event was sponsored by several FASTS Member Societies, the Pharmaceutical Manufacturers Association and the Academy of Science.

   The Minister committed himself to work with the science community "to create an environment in the public sector and in the private sector that funds R&D and therefore employs scientists, technologists and engineers and provides them with a career path."

   He talked about the cultural change in the science community since he was Shadow Minister, and said the image of the "whingeing, befuddled scientist demanding unending funding" had been replaced by a new professional approach in dealing with Government by the research agencies, academies and societies.

   Minister McGauran may have ended up with the media headlines: "Minister riles scientists with stern warning" and "Scientists hit back at Minister" for his provocative opening remarks, where he cautioned science groups about the negative impact of "shrill, over-blown exaggerated whining and wailing."

   But his talk was a clear indication that the capacity and inclination of Governments today to create positions for research scientists are limited. The old ways have gone, and anyone wishing to influence the course of national policy has to recognise that.

   He emphasised that there are rewarding jobs for scientists and technologists, and urged those present to "enthusiastically tell young people of the exciting opportunities of a career in science and engineering," particularly in the private sector.

   Shadow Minister Martyn Evans advised scientists and engineers to adjust their value systems and think more positively about the opportunities to work in other fields than those for which they have been specifically trained.

   "The job context in which today's graduates find themselves is interdisciplinary, demands collaboration and is based on a global economy. Science is an excellent general degree to train young people to be adaptable and flexible and to respond better to the needs of our technologically advanced society."

   The full text of both speeches is up on the FASTS' web site.

   FASTS is currently considering its response to the ideas which came out of the Forum.

2. **FASTS Board meeting in March:** The FASTS Board decided that it would not revise the Policy Document this year because the current policy was still appropriate in this part of the election cycle.

   The Board agreed to discuss the Top Ten Policies for 1998 at the November Council and Board meetings, with a view to making a public statement on 1 January. This list has taken an increasing importance, and the advice of all Member Societies will be sought.

   The next Board meeting will be held in Sydney on June 6.

3. **Bringing the S&T interests together:** FASTS hosted a meeting of S&T organisations to discuss submissions to the West Review of Higher Education. Dr Doreen Clark, one of the two scientists on the Review panel, was invited to discuss the Panel's general approach and answer questions.

   The meeting provided a valuable occasion for these groups (including the Academy of Science, the Deans of Science, the CRCs, the AV-CC, NGASS - the Next Generation of Australian Scientists Society - and the NTEU) to compare notes, as well as to hear from Dr Clark how the Review will proceed.

4. **The West Review submission**: The draft FASTS' submission to the West Review will be up on the web for comment, and suggestions should be directed to Chris Easton. A final submission has to be in by April 24. Contact points: Chris Easton: easton@rsc.anu.edu.au; or fax 06-249 0750); FASTS' web site: bimbo.pharmacol.su.oz.au/fasts/fastshome

5. **Letters to Ministers**: FASTS has raised a number of issues at the Federal level this month. These include a letter to the Prime Minister, urging him to support the continuation of the Factor (f) scheme which has helped build up a strong pharmaceutical industry in Australia.

   I wrote to Senator Rosemary Crowley, Chair of the Senate Committee on Employment, Education and Youth Affairs, asking her to give special consideration to the supply of properly-qualified teachers of mathematics and science in their investigations. The terms of reference of the Committee now include this area, and FASTS will be making a formal submission.

   We have also communicated with the Victorian Government with respect to their S&T policy, and have been invited to make a submission to their review of the demand for tertiary studies in S&T.

6. **WISENET first Affiliate Member**: I am delighted to announce that the Women in Science Enquiry Network (WISENET) has accepted our invitation to become the first Affiliate Member of FASTS. This category of membership is open to groups which are not professional or learned scientific or technological Societies, but do share the broad aims of FASTS.

   WISENET will bring an important new voice to discussions within FASTS, and help us make representations on matters which particularly affect women.

7. **Media:** FASTS has maintained an active presence in both the general and sectional areas of the media, and we are frequently rung by journalists seeking comment. Coverage this month included the Financial Review, the Australian, the Sydney Morning Herald, the Canberra Times and ABC TV and radio. Headlines include:
   "Vanstone defiant on uni cut-offs" (Australian)
   "Science walks a tightrope" (SMH)
   "Science lobby pressures Senate on teacher shortage" (Canb Times)
   "Trade worry delays pharmaceuticals aid scheme" (Fin Review)
   "The science of finding the right balance" (SMH)
   "Chief scientist role raises fears" (Campus Review)
   "Minister riles scientists with stern warning" (SMH)
   "Scientists hit back at Minister" (Australian)
   "'Bizarre policies' failing to reward clever thinkers" (SMH)
   "Brain drain grows with peanut pay" (Courier Mail)
   "'Gypsy boffins' need better funding" (Hobart Mercury)
   "Scientists ginger up their lobby" (Canb Times)
   "How deficit cutting is eating our young" (Fin Review)

Joe Baker
FASTS President
7 March 1997

CONFERENCE REPORTS

DIATOMS AND NUTRIENTS: A TAXONOMIC WORKSHOP

From 1 to 3 February, approximately 20 of Australia's diatomists attended a workshop designed to thrash out several issues confronting diatom research in Australia. Participants were almost all from south-eastern Australia (Aquatic Science @ Deakin, Geography @ Monash and Adelaide Universities, Water Studies @ Monash, WSL Consultants, and Victorian EPA). We were also fortunate enough to have Carl Sayer, a diatom researcher from Loughbough in the UK to impart the benefit of his knowledge, and "Mr Zeiss" (David Stewart), providing equipment and knowledge on the finer art of using the microscopes.

The program included discussions on the taxonomy of some of the more difficult genera, interspersed with project presentations by several of the researchers. Discussion sessions covered a broad range of topics, including: sampling protocols; using diatoms for water quality assessment versus ecological health; initiation of regional data bases, and the importance of ensuring taxonomic consistency.

There was general agreement that the most urgent issue in diatom research was achieving taxonomic consistency between the researchers. With this in mind, several people were each nominated to collate photographic records for one or more genera. These people, their addresses and their nominated taxa are:

Peter Gell	Department of Geography, University of Adelaide, ADELAIDE, 5005	*Navicula*, *Pinnularia* and *Nitzschia*
Jenny Fluin	Department of Geography, University of Adelaide, ADELAIDE, 5005	Fragilariaceae, *Pleurosigma* and *Gyrosigma*
Marie Illman	Department of Geography, University of Adelaide, ADELAIDE, 5005	*Amphora*
Michael Reid	Department of Geography and Environmental Science, Monash University, Wellington Road CLAYTON, 3068	*Gomphonema* and *Cymbella*
John Tibby	Department of Geography and Environmental Science, Monash University, Wellington Road CLAYTON, 3068	all Centrales and *Cymbella*
Peter Newall	Freshwater Sciences, EPA, 27 Frances Street, MELBOURNE, 3000	*Achnanthes* and *Eunotia*
Jason "the generalist" Sonneman	Water Studies Centre, Monash University, Princes Highway, CAULFIELD, 3145	everything else

Edited proceedings from the workshop are going to be compiled by Peter Newall. The participants thank Peter Gell for his role in organising the workshop and also Grace and Peter Tyler for their exceptional hospitality in hosting the extra-curricular activities.

The next workshop will also be held at Warrnambool Aquatic Sciences and is planned for July or August (which happens to be the whale-watching season!). *keep watching Conference Capers*

Peter Newall (Peter.Newall@epa.vic.gov.au).

SOUTHERN CONNECTION CONGRESS II: SOUTHERN TEMPERATE BIOTA AND ECOSYSTEMS, PAST, PRESENT AND FUTURE.

Valdivia, Chile, 6-11 January 1997

As you can see from the title, this second meeting of the Southern Connection group covered just about anything biological with any link to the southern hemisphere. The first meeting was held in Hobart in 1993. The conference was large, with over 350 people from about 17 countries attending, and long, running for 6 days with a day field trip in the middle. It was in English, which caused some difficulties (and courageous presentations) as English is not widely spoken in South America. However the general organisation was very good and things ran smoothly (at least from a non-organiser's perspective!). Posters were given the time they deserve with poster-only sessions.

Topics covered included invertebrate, vertebrate and plant biogeography, water and nutrient cycling, biodiversity patterns, historical biogeography of southern South America, paleoclimates and climate change, fire ecology of forests, plant-animal interactions, conservation and restoration, plant and animal invasions, plant morphology, forest genetics and more. I have to admit that this was all a bit much for me and my brain seized up early on! Big Names present included Gene Likens who spoke about time-scales of change and discovering long-term changes in ecosystem structure and function. Tony Norton from ANU coordinated a session on "The UN Convention on Biological Diversity, Conservation and the Science-Policy Interface", most of which I had to miss due to being poisoned (food, not pisco) at the conference dinner the night before!

The optional day trip took 3-4 busloads of us to Puyehue National Park to look at vegetation types and dynamics in a spectacular volcanic landscape (although sadly it was wet and cloudy). The ski runs there in winter must be fantastic -very smooth and steep on bare volcanic slopes. The post-conference tour took us in two groups to a native plant nursery and trial in sustainable production from native (*Nothofagus*) forest, across the Andes into Argentina to see the transition from broad-leaved rainforest to steppe (and to buy chocolates), to giant alerces (*Fitzroya*) and to monkey puzzle (*Araucaria*) forest with a smoking volcano in the background. Valdivia itself is surrounded by wetlands formed when the land sank 2m after an earthquake in 1960.

Chile is certainly a beautiful country, also fairly clean and safe, and the people are very friendly and tolerant of bad spanish. The botanical similarities with Tasmania are striking -for example in late February their *Eucryphia* (same genus as Tasmanian leatherwood) was flowering, and they also make a special honey from it.

The next Southern Connection meeting will be held in Christchurch, NZ, in 2000. To join Southern Connection and receive newsletters (or submit articles!), email Bob.Hill@plant.utas.edu.au

There is also a web page:
http://www.utas.edu.au/docs/plant_science/P.S._Homepage.html

Jean Jackson
Zoology Dept, University of Tasmania
email Jean.Jackson@zoo.utas.edu.au

CONFERENCE CAPERS

AUSTRALIA 1997

- **Sampling Nutrients in Aquatic Ecosystems Workshop**, 21 and 22 April 1997, University of Canberra. (*see "News from the CRC's" Section ASL Vol 33(3))*

- **Australian Water and Wastewater Association Workshop** "*Water for People - Water for the Environment: finding the balance*", 21 and 22 April 1997, Bardon Professional Centre, Brisbane. Enquiries: Phone - (07) 3211 3692 or Fax - (07) 3211 3698.

- **Australian Network for Plant Conservation**, Third National Conference, 23-27 June 1997, Coffs Harbour, NSW. Further information from Jeanette Mill, Ph: 06-250 9509; Fax: 06-250 9599 Email: jmill@anbg.gov.au

- **10th International Congress of Protozoology** (ICOP-X), 21-25 July 1997, The University of Sydney, Australia. Registration documents and abstract forms are available from: ICOP-X Congress Manager, Business Meetings & Incentives, PO Box 561 Crows Nest NSW 2065 Australia

- **Landcare: Changing Australia**, 16-19 September 1997, Adelaide Convention Centre, Adelaide, SA. Further information from: Andrew Curtis Ph: 08-8303 9339; Fax: 08-8303 9320 Email: landcare@pi.sa.gov.au

- **Australian Society for Limnology**, 26-29 September 1997, Albury, NSW. Registration details in the March 1997 Newsletter (ASL Vol 34(1)). Information from Alan Chick, Fax: 060-431 626, Email: chicko@mdfrc.canberra.edu.au

- **Advancing Integrated Resource Management: Processes and Policies** (2nd National Conference on Integrated Catchment Management), 29 September - 1 October 1997, Manning Clark Centre, ANU, Canberra. Information from Mr Ron Hodges, 16 Larch Crescent, Mt Waverley, Vic 3149. Ph: +61 3 9802 4859; Fax: +61 3 9802 2315. Email: rbms@vicnet.net.au; or visit the Home Page: http://www.vicnet.net.au/~rbms

- **Ecology Society of Australia**, 1-3 October 1997, Albury, NSW. Information from Dr Nicholas Klomp. Fax: (060) 51-9897 Email: nklomp@csu.edu.au

- **2nd International Symposium on Ecology and Engineering (ISEE)** "Enginering the Aquatic Environment" 10-12 November 1997. Venue: Fremantle, Western Australia. Jointly organised by the Centre for Water Research at The University of WA and the Coastal and Offshore Engineering Institute, Universiti

Teknologi Malaysia. The focus will be on methods for the preservation, maintenance and rehabilitation of aquatic systems in the broadest sense. The organisers hope to bring together geomorphologists, chemists, biologists and engineers to find solutions through field investigations, laboratory experimentation and numerical modelling. The focus will be on process rather than socio-economic managment. Inquiries: Professor Jorg Imberger and Vicki Sly. Tel: 09-380-3911, Fax: 09-380-7115 Email: sly@cwr.uwa.edu.au; http://www.cwr.uwa.edu.au/javindex.html

- **The Other 99%, the Third Conservation and Biodiversity of Invertebrates Symposium,** 9-12 December 1997, Sydney, NSW. Further information from Coordinator, Invertebrate Biodiversity Conference, Australian Museum Ph: 02-9320 6224; Fax: 02 9320 6050

OVERSEAS 1997

- **Aquatic Life-Cycle Strategies: Survival in a variable environment**, 14-17 April 1997, The University of Portsmouth, UK. Further Information from: Prof. Michael Whitfield, Marine Biological Association of the United Kingdom. Fax: +44 (0) 1752 633 331; Email: sec@mba.ac.uk or mikewmba@dial.pipex.com.

- **Groundwater Dominated Rivers**: 2 -Day Workshop, 17-18 April 1997, Southhampton University UK. Further Information from Dr David Sear, Dept. of Geography, University of Southhampton, UK. Fax: +44 (0) 1703 592795; Email D.Sear@soton.ac.uk. OR Dr Patrick Armitage, Institute of Freshwater Ecology, Fax: +44 (0) 1929 462314; Email: PDAR@wpo.nerc.ac.uk.

- **Second International Isopod Conference and Workshop**, 18-21 May 1997, Dauphin Island Sea Lab, Dauphin Island, Alabama. The Conference immediately precedes the Summer Meeting of the Crustacean Society in Mobile, Alabama. Further information from Brian Kensley, NHB-163, Smithsonian Institute, Washington, D.C. 20560. Phone: (202) 357-4666, Fax: (202) 357-3043, Email: MNHIV019@SIVM.SI.EDU

- **North American Benthological Society**, 45th Annual Meeting, 26-30 May 1997, Southwest Texas State University, San Marco, Texas. Abstracts due by 16th December 1996. Send to: Dr Thomas L Arsuffi, Program Chair, Department of Biology - Aquatic Station, Southwest Texas State University, San Marcos, Texas 78666. Ph: (512) 245-2284 Fax: (512) 245-7919. Visit the NABS Home Page on: http://www.inhs.uiuc.edu/nabs/nabs.htm

- **VII International Rotifer Symposium**, 22-27 June 1997, Collegeville, MN, USA. Theme for the symposium is "Rotifer Biology: a comparative approach".

Contact: Dr Elizabeth Wurdak, St Johns University, Collegeville, MN 56321, USA.

- **International Conference on Ancient Lakes: their Biological and Cultural Diversities**, 21-29 June 1997, Lake Biwa, Japan. For further details and registration contact: Sectretariat of ICAL '97, c/o Lake Biwa Museum, Oroshimo-cho 1091, Kusatsu 525, Japan. Ph: +81-775-68-4812 Fax: +81-775-68-4848. Email: ical@lbm.gp.ap (note "lbm" is the initials of Lake Biwa Museum NOT 1(one) + bm).

- **The VIII International Conference on Harmful Algae**, 25-29 June 1997, Vigo, Spain. The topics of the conference will be: I. Ecology Oceanography Harmful Algae Events; II. Taxonomy; III. Toxins; IV. Management of Toxic and Harmful Algae Events; V. Pharmacological and Epidemiological Studies. The conference will comprise: i) Keynote lectures b) Oral and poster presentations; c) Round table discussions. Professor Ramφn Margalef, from University of Barcelona (Spain) will give the opening address. The scientific sessions will be held in the Cultural Centre "Caixavigo" in Vigo. Vigo is the most populous city of Galicia (NW Spain), base of the biggest fishing fleet in Europe and a major center for aquaculture and the seafood processing industry. The official language is English, which will be used for all presentations and documentation (except the second announcement, that will be in English and Spanish). DEADLINES: Submission of abstracts: December 15, 1996; Registration: 1 March 1997; Submission of manuscripts for review: April 20, 1997; Submission of manuscripts in publication format: 31 July 1997
  Further Information and Registration forms from:
  Beatriz Reguera, Conference Coordinator, Instituto Espanol de Oceanografia, Aptdo. 1552. 36280 Vigo. SPAIN.
  Fax +34 86 492351; e-mail: insovigo@cesga.es

- **Seventh International Symposium on Regulated Streams**, 25-29 August 1997, Tennessee Valley. The theme of this SISORS III is "mamaging regulated rivers for biodiversity". Primary sessions will focus on three main topics: (1) Rehabilitation of large rivers; (2) Terrestrial and aquatic interactions; and (3) Restoration of tailwater habitats. Contributed papers on any aspect of regulated flow eceology and management are also welcome for oral or poster presentation. Abstracts (<500 words) should be submitted by 20 December 1996. Selected papers will be published in Regulated Rivers. The conference will be held at the Chattanooga Choo-Choo Holiday Inn, Chattanooga, Tennessee, USA. Further information from Dr James B. Layzer, Tennessee Cooperative Fishery Research Unit, Tennessee Technological University, Cookeville, TN 38505, USA. Ph: 1-615-372-3094 Fax: 1-615-372-6257.

- **Seventh International Symposium on Aquatic Oligochaetes**, 18-22 August 1997, University of Maine at Presque Isle, Maine, USA. Registration forms from the organiser: Dr S.R. Gelder, University of Maine at Presque Isle, 181 Main Street, Presque Isle ME 04769-2888 USA. Fax: +207-768-9608 Email: GELDER@polaris.umpi.maine.edu

- **The Great Basin Symposium on Glacial and Postglacial Drainage** - *Fifty Years of Geologic, Biologic and Hydroclimatic Progress in Late Cenozoic Aquatic System History*, 17-20 September 1997, University Park Hotel, Salt Lake City, Utah. Further Information: Linda K Williams/ GBASH, 2174 Annex, Conferences, University of Utah, Salt Lake City, Utah 84112 USA. Email: lwilliams@admin.dce.utah.edu

- **Chaotic Dynamics of Planktonic Food Webs**, 8-10 October, 1997, Rostock-Warnemünde, Germany. Further information and registration from: International Conference PD Dr Reinnard Heerkloss, Universitat Rostock, Institut für Ökologie, Freiligrathstraße 7/8, D-18051 Rostock, Germany. Ph: +49-381-498-2015, Fax: +49-381-498-2011. Email: rh@frserv.bio3.uni-rostock.de

OVERSEAS 1998

- **Watershed Management: Moving From Theory to Implementation**, May 3-6, 1998, Denver, Colorado, USA. The Water Environment Federation (WEF) is sponsoring a specialty conference on Watershed Management, building on the exciting 1996 conference that WEF sponsored together with the U.S. Environmental Protection Agency and 13 other Federal agencies. Attendees will hear the latest information on implementing watershed planning, protection, restoration, and education. The conference will include oral presentations, interactive discussions, posters, exhibits, and tours. Potential speakers are asked to submit an abstract for consideration. Abstracts must be received no later than the close of business on June 16, 1997. Authors will be notified of acceptance of papers by the middle of September 1997 and must prepare a manuscript by January 9, 1998 for inclusion in the Conference Proceedings. Speakers will be responsible for paying for their own travel expenses and registration fees for the conference. Registration fees are approximately $450 for full conference, advance registration, WEF member. For each planned paper, please submit 1 copy of both an information sheet (below) and a typed abstract (300-500 words, one page, single spaced). For further information on Abstracts and the Conference contact: Greg McNelly (Email: gmcnelly@wef.org) or Technical Programs - Abstracts, Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314, Phone: (703) 684-2400

- **XXVII International Association of Theoretical and Applied Limnology (SIL)**, 9-15 August 1998, Dublin, Ireland. Theme for the congress is "water of

life". Further information from: Declan Murray, Secretary General, XXVII SIL Congress, UCD Environmental Institute, Richview, Clonskeagh, DUBLIN 14, IRELAND. Information can also be found at the web site: http://nis.rtc-tallaght.ie/conferences/sil98/sil98.htm

- **International Interdisciplinary Conference Headwater Control IV: Hydrology, Water Resources and Ecology in Headwaters,** 20-23 April 1998, Meran/Merano, northern Italy (The Alps). This conference will focus on the interdisciplinary aspects of scientific and applied water resource management in headwaters. It will aim to link the perspectives of the research scientists (hydrologists, ecologists, etc.), land-management practitioners and policy makers through consideration of the problems caused by pollution, land erosion, and environmental degradation. The conference will provide an international forum for the evaluation of alternative land management, environmental protection and land reclamation practices and policies. The conference is intended as a balanced mix of scientific approaches and practical applications. Both oral and poster presentations are planned. For more information contact: HeadWater'98, > c/o European Academy, Weggensteinstrasse 12/A, I-39100 Bozen/Bolzano, Italy. Ph: +39 - 471 - 30 61 11; Fax: +39 - 471 - 30 60 99; Email: HeadWater98@ms.sinfo.interbusiness.it;
  Home Page http://www.EURAC.edu/headwater

ASL VOLUNTEERS

The following people have volunteered to speak as experts on behalf of the ASL. If you wish to be included on the list contact:

Dr Richard Marchant (ASL Secretary)
Email: rmarch@pioneer.mov.vic.gov.au

The following members are prepared to speak on behalf of the ASL on their area of expertise.

Name	Area of Expertise	Contact Details
Prof A. Arthington	in stream flows, ecology of exotic fishes, conservation of rare fishes.	Centre for Catchment & Instream Res, Griffith University, Natham Qld. 4111. Phone (07)275 7403 , Fax: (07)277 3759
Dr P. Boon	bacteriological issues, wetlands.	Environmental Management, Victoria University of Tech., PO Box 14428 MMC, Vic. 3000. Phone (03)9365 2214, Fax (03) 9365 2465. email:boopa@stamail1.vut.edu.au
Dr A. Boulton	intermittent streams, hyporheic zones, Flinders Ranges	Ecosystem Management, University of New England, Armidale, NSW 2351. Phone (067)733760, Fax (067)732 769 email: aboulton@metz.une.edu.au
Dr M. Brock	temporary wetlands, aquatic plants	Botany Department, University of New England, Armidale NSW 2351. Phone (067)732 578, Fax (067)733 283 email: mbrock@metz.une.edu.au
Dr S. Bunn	stream ecology, ecology of riparian zones, biomonitoring	Faculty of Environmental Sciences, Griffith University, Nathan, Qld 4111. Phone (07)8757 407, Fax (07)875 7459, email: s.bunn@ens.gu.edu.au
Dr G. Closs	ecology and conservation of freshwater fish, upper Murray River	Environmental Management & Ecology, LaTrobe University, PO Box 963, Wodonga, Vic. 3689 Phone (060)583873 ,Fax:(060)583888 email:gcloss@awc-net.latrobe.edu.au
Dr T. Entwisle	taxonomy and ecology of freshwater macroalgae	National Herbarium of Victoria, Birdwood Ave, South Yarra, Vic. 3141. Phone (03)96552313, Fax (03)9655 2350 email: Entwisle@botany.unimelb.edu.au
Dr M. Finlayson	wetlands, Ramsar convention	Alligator Rivers Region, Office of Supervising Sci, Post Office, Jabiru, NT 0886 Phone (08) 89799756, Fax (08) 89792149 email:masf@eriss.erin.gov.au
Dr T. Grant	platypus biology	Biological Science, University of NSW, PO Box 502, Cronulla, NSW 2230
K. Hortle	impact of mining, impact of development in Se Asia and PNG on rivers	Environmental Management, 18 Sharrow Road, Mitcham, Vic. 3132 Phone and Fax: (03) 9872 4101

Dr P. Horwitz	conservation of freshwater invertebrates	Dept of Science, Edith Cowan University, Joondalup Drive, Joondalup, WA 6027. Phone (09)4055717, Fax: (09)300 1257 email: phorwitz@cowan.edu.au
Dr P. Humphries	fish ecology, in-stream flows	CRC Freshwater Ecology, MDFRC, PO Box 921, NSW 2640. Phone (060)43 1002, Fax:(060)43 1626 email: hump@watson.canberra.edu.au
Dr G. Jones	cyanobacterial blooms	CSIRO, PMB 3, Griffith NSW 2680. Phone (069)601563, Fax: (069)601600 email:gary@griffith.dwr.csiro.au
Dr P.S. Lake	stream ecology, conservation freshwater biota	Ecology & Evolutionary Biology, Monash University, Wellington Road, Clayton, Vic. 3168. Phone (03)9055 653, Fax:(03)9055613 email: p.s.lake@sci.monash.edu.au
Prof J. Laybourn-Parry	plankton microbial ecology, carbon cycling in lakes, Antarctic freshwater systems	Zoology Dept, LaTrobe University, Bundoora, Vic. 3083. Phone (03) 479 2278
Dr V. Matveev	plankton food webs, biomanipulation	MDFRC, PO Box 521, Albury, NSW 2640. Phone: (060) 431002, Fax: (060) 431626.
Dr R. Pearson	tropical freshwater ecology	Zoology Dept. ACTFR, James Cook, University, Townsville, Qld. 4811. Phone:(077)814 262, Fax: (077)79 6371
J. Puckridge	ecology of arid zone rivers, ecology of freshwater fish	Zoology Department, University of Adelaide, Adelaide, SA 5005. Phone (08) 3034455. Fax: (08) 303 4364
Dr N. Rea	wetland plant ecology, water regime, weeds and conservation	CSIRO Entomology, TERC, PMB44, Winellie, Darwin NT 0821 Phone (089) 221717, Fax: (089)221714, email: naomi@terc.csiro.au
Dr R. Shiel	planktonic & littoral microfauna, billabong ecology.	MDFRC, PO Box 921, NSW, 2640. Phone (060) 431002, Fax: (060) 431626
Dr L. Townley	: groundwater-surface water interaction.	CSIRO Division of Water Resources, Private Bag, Wembley, WA 6014 Phone (09)387 0329, Fax: (09)3878211
A/Prof K.F. Walker	Murray - Darling basin rivers	Zoology Dept, University of Adelaide, Adelaide, SA 5005. Phone (08)303 5595, Fax: (08) 3034364
Prof. W.D. Williams	Salt lakes	Zoology Dept, University Adelaide, Adelaide SA 5005. Phone (08)303 4455, Fax: (08) 3034364

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Please send details or copies of books, chapters, articles, periodicals, monographs, reports, newsletters, videos and CD's to Russ Shiel, MDRFC, PO Box 921, Albury, NSW 2640. Go on, do it..... see your name in print.....

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REGIONAL EXECUTIVE MEMBERS 1996-97

NSW Mr Alan Chick, Murray-Darling Freshwater Research Centre, GPO Box 921, Albury NSW, 2640.
Ph: 060-582 314 Fax: 060-431 626
Email: chicko@mdfrc.canberra.edu.au

Qld George Lukacs, Australian Centre for Tropical Freshwater Research, James Cook University, Townsville 4811. Ph: 077 81 4262. Fax: 077 81 5589
Email: george.lukacs@jcu.edu.au

SA: Ms Kerri Muller, Botany Dept, University of Adelaide, SA 5005
Ph: 08-8303 4560 Fax: 08-8232 3297
Email: kmuller@botany.adelaide.edu.au

WA: Kerry Trayler, Environmental Sciences, Murdoch University, Murdoch WA 6150
Ph: 09- 3606298, Fax 09-3104997
Email: trayler@csuvax1.murdoch.edu.au

ACT: Dr Bon Banens, Murray-Darling Basin Commission, GPO Box 409, Canberra, ACT 2601. Phone 06-2790123, Fax 06-2488053
Email: b.banens@mdbc.gov.au;

NT Mr Michael Douglas, School of Biological Sciences, NT University, Darwin, NT 0808
Ph 08- 8946 7261 Fax ~~08-8941 0460~~ 08-89466847
Email: m_douglas@bligh.ntu.edu.au

VIC Dr Nick O'Connor, Water EcoScience, 69 Ricketts Rd, Mt Waverley, Vic 3149
Ph: 03- 9550 1043, Fax 03-9543 7372
Email: nick.wes@c031.aone.net.au;

Tas: Dr Jean Jackson, Zoology Dept. University of Tasmania, GPO Box 252C, Hobart Tas 7001.
Ph/Fax: 03-6223 7133
Email: jean.jackson@zoo.utas.edu.au

EDITORIAL ADDRESS

Dr Fran Sheldon, Dept. of Zoology, University of Adelaide, SA 5005
Ph: (08) 8303 5565 Fax: (08) 8303 4364
Email: fsheldon@zoology.adelaide.edu.au

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